THE BUILDER

a Journal for the

ARCHITECT & CONSTRUCTOR

VOL. CLVI FEBRUARY 3 1939 No. 5009

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(Illustrated).

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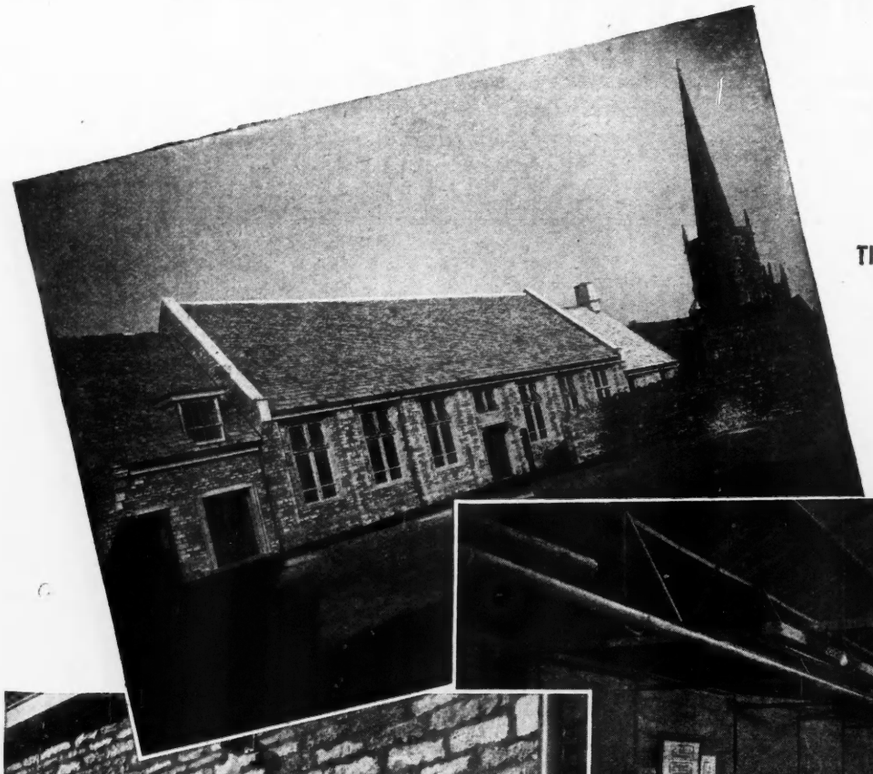

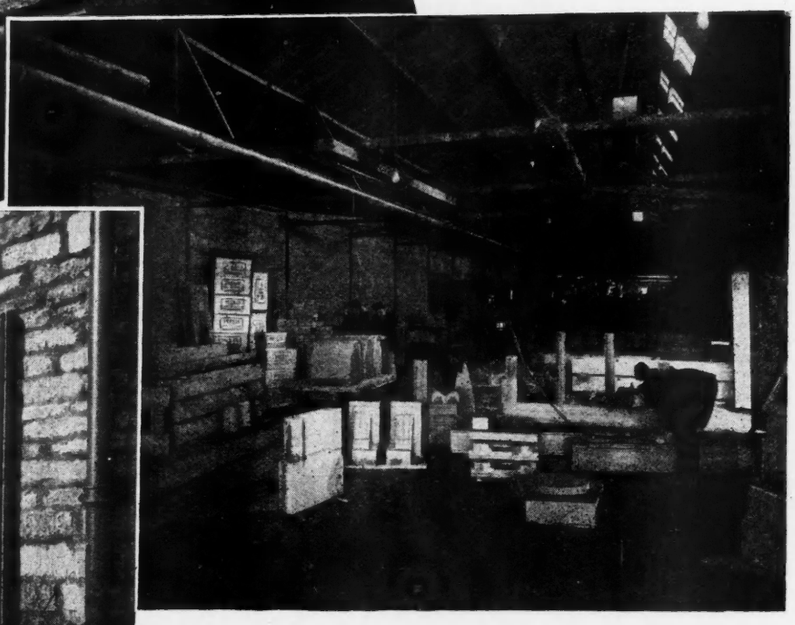

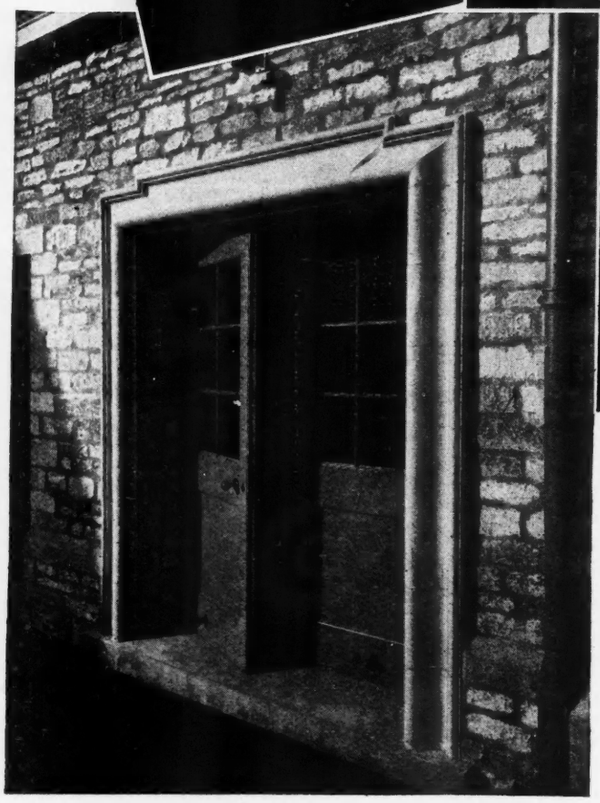

Architect:
G. R. HUTTON, ESQ., A.R.I.B.A.
COUNTY ARCHITECT, OXFORD.

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THE BUILDER

INCORPORATING

'ARCHITECTURE' AND 'THE BRITISH ARCHITECT'

Vol. CLVI FEBRUARY 3 1939 No. 5009

STAPLE INN BUILDINGS, HOLBORN.

Showing the effect of floodlighting. Some technical details are on page 273.

COMING EVENTS

Friday, February 3.

Architectural Association. Mr. Eric Jarrett on "Regional Building in the British Isles: West of England." 8.30 p.m.

Hampshire and Isle of Wight Architectural Association. Eighth Annual Dinner. South Western Hotel, Southampton. 7.15 p.m.

Royal Institution. Sir Charles Bressey on "Bigger or Better London." 21, Albemarle-street, W.1. 9 p.m.

Institution of Heating and Ventilating Engineers (East Midlands Branch). Mr. H. H. Bruce on "Do Miscellaneous Troubles in Heating and Hot Water Supply Systems Strike the Right Note?" Palace Café, Newark. 7.15 p.m.

Nottingham College of Art. Distribution of prizes by Mr. Hubert Lidbetter, F.R.I.B.A.

Friday-Friday, February 3-10.

Royal Institute of British Architects. Annual Exhibition by the Camera Club. Opening on Friday, February 3, at 6.30 p.m., by Mr. Grant Marshall, Picture Editor of the *Daily Mail*.

Saturday, February 4.

Royal Institution. Mr. Eric Gill on "Art and Industry: the Secular and Sacred in Modern Industry." 3 p.m.

Monday, February 6.

Chartered Surveyors' Institution. Colonel F. S. Hammond on "Problems of Valuation as Affected by Modern Legislation." 6.30 p.m.

Royal Institute of British Architects. Capt. Sydney E. Redfern on "Some Legal Aspects of An Architect's Practice." 8 p.m.

Society of Engineers. Presidential Address by Sir Henry Maybury. Burlington House, W.1. 6 p.m.

Tuesday, February 7.

Society of Chemical Industry. Messrs. L. A. Jordan and P. J. Gay, on "Paint Research in Relation to Building." Burlington House, W.1. 8 p.m.

Housing Centre. Luncheon. Mr. P. R. Rathbone, on "Housing—The Next Five Years." 1 p.m.

Wednesday, February 8.

London University Lectures. Mr. E. C. Willatts on "The Use of Land in Planning in London Region." 7.30 p.m.

Institution of Civil Engineers. Inaugural meeting—Road Engineering Section. Address by chairman, Mr. F. C. Cook. 6 p.m.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "Roman Architecture (146 B.C.-A.D. 365): Theatres, Amphitheatres and Circuses." 6 p.m.

Building Centre. Mr. D. J. M. Davidson on "Renderings and Plaster." 5.30 p.m.

Institution of Heating and Ventilating Engineers. Margaret Fishenden on "The Use of Thermocouples for Temperature Measurement." 2.30 p.m.

Institution of Heating and Ventilating Engineers. Annual dinner. Park Lane Hotel, W.1. 7 p.m.

Hackney Technical Institute. Mr. H. M. Llewellyn on "Paint on Building Materials." 8.15 p.m.

Liverpool Architectural Society. Mr. Eric L. Bird on "The Empire Exhibition, Glasgow." 6 p.m.

Institute of Welding (Scottish Branch). Mr. R. A. MacDonald on "Running a Welding Shop." Institution of Engineers and Shipbuilders, Glasgow. 7.30 p.m.

Thursday, February 9.

Institution of Structural Engineers. Joint meeting with British Section of Société des Ingénieurs Civils de France. Mr. Gower B. R. Pimm on "Recent Developments in Deep Ground Testing." 6.30 p.m.

Institution of Civil Engineers (Birmingham and District Association. Mr. W. H. Haile on "Flood Problems of the Midlands." James Watt Memorial Institute, Birmingham. 6 p.m.

Institution of Heating and Ventilating Engineers (Manchester and District Branch). Mr. H. Townend on "Welding." 244, Deansgate, Manchester. 7 p.m.

Friday, February 10.

Royal Institute of British Architects. Annual Dinner. 66, Portland-place, W.1. 7.30 p.m.

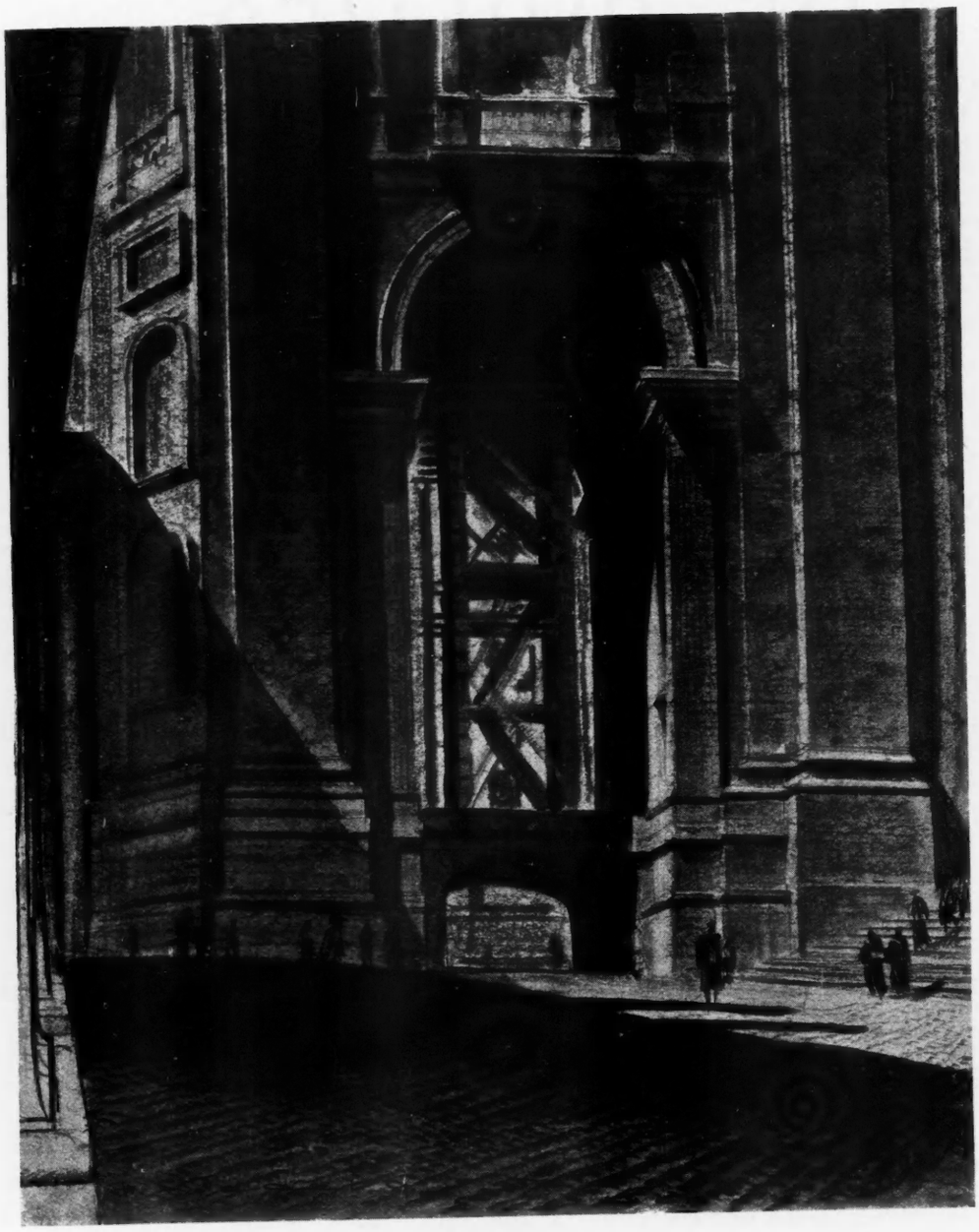
Incorporated Association of Architects and Surveyors (London and Home Counties Branch). Annual Branch Dinner and Dance. Park Lane Hotel, W.1. 7.30 p.m.

Institution of Sanitary Engineers. Mr. J. M. Wishart on "The Work of the Chemist in Relation to Sewage Purification and Disposal." 296, Vauxhall Bridge-road, Victoria, S.W.1. 6.30 p.m.

Reimann School. Mr. A. J. Symes on "Design Factors and the Modern Display." 4-10, Regency-street, S.W.1. 6.15 p.m.

Town Planning Institute. Mr. D. H. Brown on "The Location and Design of Roads with Special Reference to 'Standard Widths.'" Caxton Hall, S.W.1. 6 p.m.

Birmingham and Five Counties Architectural Association. Mr. C. J. Morreau on "Prevention of Noise in Buildings." 8, Newhall-street, Birmingham.



ST. PETER'S, ROME.

FROM A DRAWING BY W. D. SUDDABY.

TOPICS OF THE DAY

"DISGRACEFUL CONDUCT."

THE letter from Mr. Gordon W. Jackson, which appeared last week in our correspondence columns, raised a point in the Registration Act which has yet to be clarified. Expulsion from the Register has almost the effect of taking away the offender's living, and goes very much farther in this respect than does expulsion from a professional society. The latter makes its own laws of conduct, to which each entrant subscribes, and he can have no grievance if his membership is terminated as a result of a deliberate offence. The Register, on the other hand, is the visible outcome of an Act of Parliament, and its regulations must conform to the law of the land.

Let us take, for instance, the question of an architect seeking to secure the favours of another architect's client. Architects regard such an action as "disgraceful" in every sense, and an offender of this kind would receive little mercy at the hands of any Practice Committee. Yet tradesmen and merchants are doing that sort of thing daily without committing an offence. By every post architects receive circulars seeking to induce them to employ firms for work which they are at present placing elsewhere. Nobody thinks of such an action as disgraceful, and the competitors of such advertisers feel no sense of grievance. Can we, therefore, treat such a matter as that to which we have referred as one which is so disgraceful to the offender that he should be denied the legal right to practise as an architect?

It is very difficult to justify such a standpoint without assuming a superior and priggish attitude which suggests that the architect is not as other men are, and should therefore respect a higher law than that which the realm has established. We think, however, that it is quite possible to reconcile a different code of manners in the professions without claiming a superior morality.

Commerce has developed within certain natural and economic bounds, in which price, quality and efficiency set their own standards within the framework of honesty. The buyer in the commercial market may be influenced more by one factor than another. In one case the cheap article is good enough, in another wearing quality is of first consideration, and in another mechanical efficiency may outweigh considerations of first cost. The buyer is entitled to be informed of all the possibilities of the articles to which he has access in the open market, and for this purpose advertising provides the medium, which is the reverse of disgraceful, as is the personal approach of the trade representative who endeavours to secure the buyer's business.

The practice of architecture, on the other hand, is not the buying and selling of anything. The client does not purchase the design of a building, but secures the services of an adviser who identifies himself with his client's interests in the carrying out of a task in which the client himself possesses no skill. If the course of that kind of partnership were open to a market of cost, and the architect were required to make out a competitive case for his personal skill as a condition of his employment, the bottom would fall out of the association, and the public would be left to suffer from the effect of cheap architecture, for the reason that the price factor is really the only one which a large section of the public is qualified to appraise.

It seems, therefore, that the law should impose a different, and more severe, standard of conduct upon the architect than it imposes upon the trader. The powers of the British Medical Association, and their effect upon the legal standing of doctors, are precedent enough for such a point of view. We trust, therefore, that no time will be lost in drawing up a more specific Code of Conduct for Registered Architects which shall set a high and exacting standard; and in particular that the term "disgraceful" will be understood to embrace not only those obviously criminal acts which would offend all classes of society, but those less obvious misdemeanours which architects already recognise as such, and whose exclusion they consider vital to the fair and proper practise of architecture.

HOUSING IN PADDINGTON.

WHILE the campaign to secure that all large architectural works of a municipal nature shall be designed by, or under the control of, qualified architects is making continual headway, it is clear from a report of a meeting of protest by Paddington residents (reported on page 239) that those who believe in "architecture by architects" cannot afford to rest on their oars.

Statements made at this meeting indicate that Paddington Borough Council propose to entrust the replanning and rebuilding of a large slum area in the borough to the Borough Engineer's Department, and that while there are in that department a number of architectural assistants, "it has at no time been suggested that the responsible control should be placed in the hands of these architectural assistants." The estimated cost of the clearance scheme under consideration is over £500,000.

Such a scheme, which covers nearly 15 acres, is obviously one in which the talents for lay-out, design and individual planning, possessed only by an experienced architect, should be employed. To state this is to reflect not at all upon the capabilities of Borough Engineers, whose qualifications, though specific and wide, do not include architectural training.

If, as appears, the Council's principal object is to save cost, then we feel that they are mistaken. To place the responsibility for such highly specialised work upon other than a trained architect experienced in it is to ignore lessons which have been learned by almost every great local authority. We suggest that Paddington should give serious consideration to the issues raised, in their own interests and those of the eventual tenants. Whether they appoint a Borough Architect or make a private appointment is, in our opinion, immaterial provided only that their choice falls upon a properly qualified and experienced architect.

THE ARCHITECTURAL ASSOCIATION.

ON Tuesday night the scrutineers' report on the voting in connection with the proposed alteration of the by-laws of the Architectural Association was presented, from which it appeared that the majority necessary to give effect to the new by-laws had been obtained with something to spare. One effect of this will be that in future newly-joining students will be elected to a special probationary class of membership, which will not be eligible to vote upon the conduct of the Association.

Those who voted for the change, whether senior members or students, are to be complimented upon their wisdom. While there is much to be said for freedom in art, that freedom should and must be confined within limits, and it seems reasonable that the establishment of those limits should not be within the discretion of the students.

We consider this alteration to be an important one, likely to play a valuable part in maintaining the A.A. School in that position which it rightly should hold among the schools of architecture.

NOTES AND NEWS

The Architectural Association : New By-laws Approved.

An ordinary general meeting of the Architectural Association was held on Tuesday night, when the President announced that the paper by Professor A. E. Richardson had had to be postponed owing to his indisposition. It is hoped to arrange this lecture some time in March.

The President then read the report received from the scrutineers in connection with the postal ballot for the proposed new by-laws framed to include a probationary class of membership, which was as follows: 1,343 voting papers were received, of which 9 were invalid; votes cast for the new by-laws, 976; against, 358; total votes, 1,334.

The 976 votes cast for the proposed new by-laws were more than the two-thirds majority of members voting, as required under by-law No. 55. The modification was therefore carried.

A vote of thanks was accorded to the scrutineers, Messrs. A. R. F. Anderson, Leo Desyllas and G. L. Thompson.

***

Schools in the West Riding : Further Architectural Appointments.

The West Riding Education Committee has set an excellent example by employing outside architects in private practice for school projects in the county. Last year 15 such architects were appointed, and the Committee has now made further appointments in connection with 16 schools, proposed at a cost of £250,000. During 1938-39 capital work totalling in all £477,230 will be placed with outside architects.

The new appointments are: Aireborough, Yeadon and Rawdon Senior—Taylor and Young, Manchester; Armthorpe Senior 'Boys'—G. W. Atkinson, Leeds; Crigglestone Infants'—W. Broadbent, Leeds; Crigglestone Senior—Victor Bain, Leeds; Garforth Senior—J. M. Jenkinson, Sheffield; Goole Marshland Senior—Connell, Ward and Lucas, London; Heckmondwike (Dale Lane) Junior and Infants'—Norval R. Paxton, Leeds; Heckmondwike (Sunnyside) Junior and Infants'—R. S. Shapley, Leeds; Wetherby Infants'—G. H. Shipley, Leeds; Great and Little Preston Senior—Milner and Craze, London; Penistone Senior—J. C. A. Teather, Sheffield; Rothwell Senior—F. Billerey, London; Sedbergh Senior—A. G. Shoosmith, London; Settle Senior—W. B. Edwards, Newcastle; Swillington Junior—J. B. Bailey and Son, Keighley; and Whitwood Mere Junior (Potteries)—P. D. Hepworth, London.

***

The Bressey Report: L.C.C.'s Recommendation.

The Highways and Finance Committees, in a joint report to the London County Council, state that the expenditure involved in carrying out the recommendations of the Bressey Report in the L.C.C. area has been estimated at something between £80,000,000 and £120,000,000. If this expenditure were undertaken within the period of 30 years envisaged by the Report, the cost to the council might be between £1,500,000 and £2,000,000 a year for each of the 30 years, even when allowance is made for grant from the Road Fund on a basis of 60 per cent. The council selected three schemes for prior treatment, and asked the Minister of Transport to make a grant bigger than that allocated to normal London improvements. The Minister replied, however, that he was unable to hold out any prospect of grants for Bressey schemes at a rate in excess of 60 per cent.

The committees concerned hope that the Minister may find it possible to offer a satisfactory higher rate. They recommend the council to place on record its regret that it is unable, on the basis of 60 per cent. grant, to carry out in a limited period the three major schemes selected from the Bressey Report and provisionally agreed with the Minister for prior execution.

***

Compensation for War Damage.

In the House of Commons this week Sir John Simon, Chancellor of the Exchequer, announced the conclusions reached by the Government on the subject of compensation from public funds in respect of loss or injury caused to persons or property in this country arising from enemy action, such as bombardment from the air or the sea, or from counter-action taken against any such attacks. There will be a compensation board presided over by one of H.M. Judges, and the collection of claims and recording of damage will be in the hands of the Valuation Office of the Inland Revenue as a nucleus, with additional professional assistance.

***

R.I.B.A. Camera Club : Annual Exhibition.

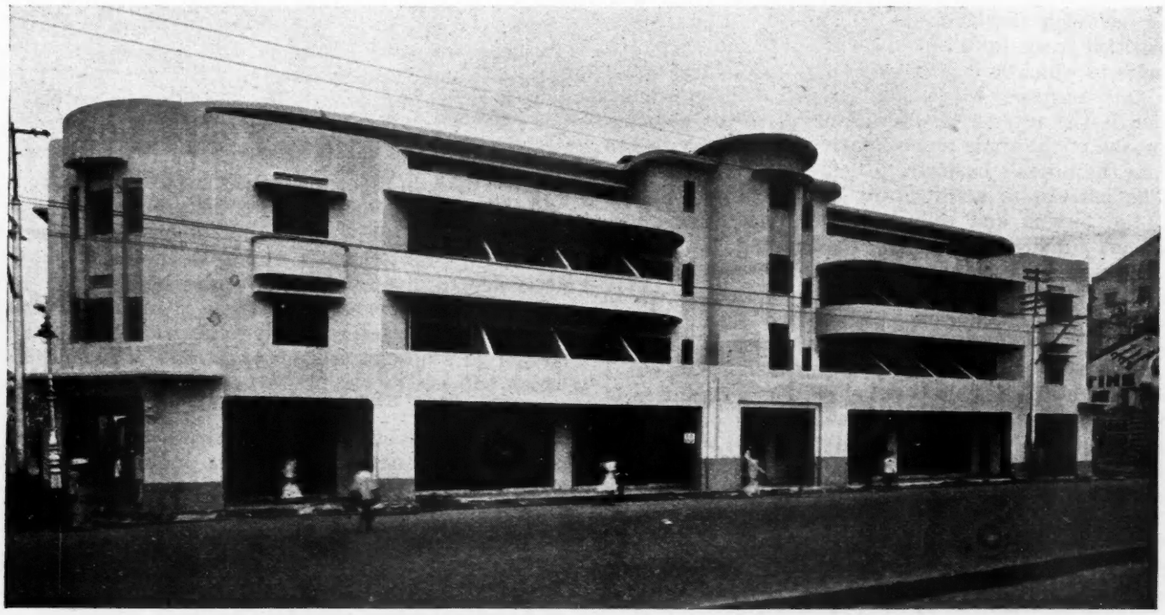
The Camera Club are holding their annual Exhibition at the R.I.B.A. from February 3-10. Mr. Grant Marshall, picture editor of the "Daily Mail," is opening the exhibition at 6.30 p.m. on February 3, and it is hoped that many members of the Club will be present and bring their friends. Members of the R.I.B.A. are also invited. The Exhibition will be open between the hours of 10 a.m. and 8 p.m., except on Saturday, February 4, and Friday, February 10, when the exhibition will close at 5 p.m. Admission is free.

***

The Improvement of Singapore : New Buildings.

The Singapore Improvement Trust, which is operated from the Municipal office, has been conducting several schemes for the clearance and replanning of derelict areas in the town. One such plan which is under way at present is a town extension scheme at Tiong Bahru, part of the Chinese area, where decrepit and insanitary quarters have been cleared and new living accommodation built as replacement.

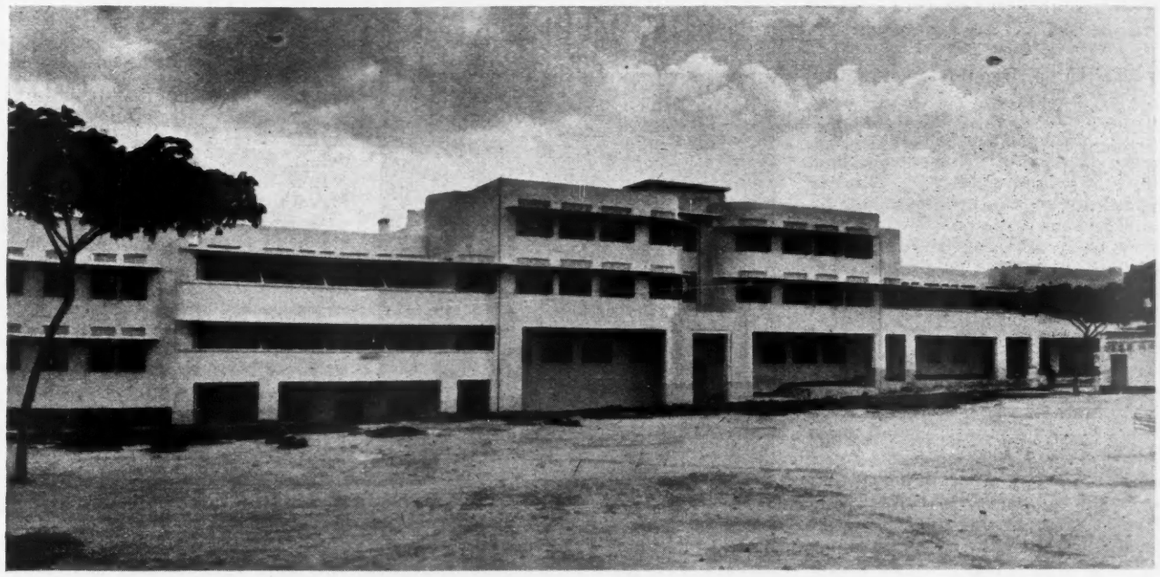
Typical of the kind of building which is being erected (to the designs of Mr. L. Langdon Williams, F.R.I.B.A., F.S.I., M.T.P.I.) are two blocks of tenements illustrated in these pages. These buildings form part of two general improvement schemes in the centre of the southern Chinese quarter of the town. The accommodation consists of rooms



TENEMENT BUILDINGS, NEW BRIDGE ROAD, SINGAPORE.

MR. L. LANGDON WILLIAMS, F.R.I.B.A., MANAGER TO THE SINGAPORE IMPROVEMENT TRUST.

(See this page.)



TENEMENT BUILDINGS, BANDA STREET, SINGAPORE.

MR. L. LANGDON WILLIAMS, F.R.I.B.A., MANAGER TO THE SINGAPORE IMPROVEMENT TRUST.

planned around common-rooms, with communal kitchens and sanitary accommodation. Six rooms are planned around each common-room, each room being occupied by one family. The buildings are reinforced concrete structures with 9-in. brick panels, rendered externally and finished with cream and green concrete paint.

***

A Westminster Abbot.

A DESCRIPTION is given in the first number of the Westminster Abbey Quarterly, just published, of a "find" in the stonemasons' yard outside Westminster Abbey. While the north front of the Abbey was being restored in 1887, a beautiful stone head of an Abbot was found, where it had probably been put as a bit of old stone by one of Wren's workmen in the early 18th century. After that it lay about in the stonemasons' yard. According to Mr. Lawrence Tanner, Keeper of the Library and Muniments of the Abbey, who writes about this stone head, which is now preserved in the Abbey Library, it is possibly that of John Islip. The head has great beauty, and the face has been carved with great care and distinction. Obviously a head of such strongly marked individuality must have been intended as a portrait, and it must have been the head of one of the five missing figures which formerly stood in Henry VII's Chapel. Mr. Tanner suggests that it may well be the head of the Abbot who ruled in Westminster from 1500 to 1532, and of whom it was said that his funeral was "the last flash of the glory of Benedictine Westminster."

***

Waynflete's Tower: An Appeal.

IN view of the historical associations and the archæological interest of the 15th-century building known as Waynflete's Tower, at Esher, the Surrey Archæological Society has decided to appeal for subscriptions from members and others towards the sum required to purchase the Tower and land adjacent. Contributions may be sent to Mr. A. R. Cotton, F.S.A., 32, High-street, Sutton, Surrey. An illustrated article on Waynflete's Tower appeared in *The Builder* for December 16.

The Savoy Chapel: Restoration Work.

THE scheme for the structural restoration and interior improvement of the Savoy Chapel to be undertaken by the Duchy of Lancaster and members of the Royal Victorian Order, to which reference has already been made in our columns, will be under the direction of Mr. Malcolm W. Matts, L.R.I.B.A.

***

The Late T. J. Byrne, A.R.I.B.A.

THE death has taken place in Dublin of Mr. T. J. Byrne, A.R.I.B.A., F.R.I.A.I., who was responsible for the restoration of the Dublin G.P.O., the Four Courts, and the Custom House after their destruction in the Irish civil war. In the early part of his career he served in the architectural department of the London County Council. As principal architect of the Office of Public Works set up by the Free State Government after the signing of the Anglo-Irish Treaty, he was responsible for many pioneer schemes in Dublin city, including the first of the big housing schemes at Mount Randal. He also collaborated with Sir Edwin Lutyens in the construction of the War Memorial at Islandbridge. He was a Vice-President of the Royal Institute of Architects of Ireland.

***

Rural Housing: Report of Demolition Procedure Sub-Committee.

The report of the Demolition Procedure Sub-Committee of the Central Housing Advisory Committee of the Ministry of Health is now published (H.M. Stationery Office, price 4d.), 11 months after appointment "to investigate the administration of the statutory provisions relating to the demolition of individual unfit houses in rural areas, having regard to the importance of giving full consideration to the possibilities of reconditioning, and to advise whether and, if so, how, the administration of these provisions can be improved."

***

The Honan Scholarship: A Liverpool Award.

THE winner of the Honan Scholarship Award of the Liverpool Architectural Society is Mr. D. Prys Thomas, B.Arch., of Prince's Park, Liverpool, who has been a student at the Liverpool University School of Architecture since 1933. An honorarium of £5 had been awarded to each of the following: Mr. A. L. Brigstocke, Mr. F. N. Lawrence, and Mr. H. Penn. The subject was "An Open Air Concert Enclosure at Otterspool."

***

St. Bartholomew's Hospital: Rebuilding Scheme.

AN appeal for £650,000 was recently launched for major works of reconstruction at St. Bartholomew's Hospital. To complete the rebuilding scheme, the following are needed: A new nurses' home, to house 200 nurses, at a cost of £150,000; a paying patients' block (£120,000); a new radiological block (£150,000); a new building for all the special department wards—maternity, children's, ear, nose, throat, eye, and orthopædic (£200,000); and a preliminary training school for nurses, to be built a few miles outside London (£25,000). The architects to the Hospital are Messrs. Lanchester, Lodge and Davis.

***

Architects' Estates.

MR. GEORGE CHURCHUS LAWRENCE, F.R.I.B.A., of Bristol, who died in November last, aged 66, left estate of the gross value of £8,416, with net personalty £7,589.

MR. ARTHUR KEEN, F.R.I.B.A., of Limpsfield, Surrey, who died on December 15, aged 78, left £6,377, with net personalty £4,965. He left £50 to the Architects' Benevolent Society.

***

Professional Announcements.

MR. JAMES W. HINDLE, F.I.A.A. and F.F.A.S., and MR. HARRY SMITH, M.Inst.R.A., have commenced practice in partnership as Messrs. Hindle and Smith, Registered Architects, at 16a, High Skellgate, Ripon (telephone, Ripon 508).

MESSRS. ALFRED J. H. SPRAGUE AND SON, chartered quantity surveyors, announce that they have taken Mr. Martin A. J. Valentine, P.A.S.I., into partnership as from January 2. The title of the firm will remain unchanged. The address is: 6A, Godliman-street, St. Paul's Churchyard, London, E.C.4. Telephone No.: City 4200.

"SEE HOW THEY DRAW"

When the tempo of human beings increases it seems that only the very few—those who eventually arrive at the top of that ugly branched tree of ambition—possess the faculty of sitting back and thinking, slowly and quietly, "This is what I want out of life, by this means or that can I achieve it."

Industry is, I suppose, an admirable thing since the results of its presence are manifested in the really progressive things around us. Yet industry has become the beginning and end of the majority of people's lives. The very A B C of their work is one of early to bed, early to rise;* arrive at the office on time; be prepared to work late; relax during the week-end; insure yourself; don't overspend your income.

We know the feeling of remorse that follows on our temporary loss of grip on these simple factors, and by these very rules I hold our lives to be more industrious than fruitful. Busier than beautiful—and what dope a hectic life can be, with its attendant appointments, frequent travel, a full pocket and the background of a satisfied family life.

Such words are, of course, tantamount to a sermon, and are no more and no less than the result of an afternoon spent *looking* at objects, the subjects of which are part of my life—a supposedly essential element of my career.

Behind the things one saw at the Exhibition of Architectural Perspectives at the A.A., in Bedford-square, one might have expected a message to be conveyed clearly enough to stamp indelibly on one's mind such thoughts as had been provoked by the invitation to attend.

Only one exhibition did any such thing, and I will tell about it later.

To organise an exhibition voluntarily entails leaving work or overworking, and the present choice of drawings leaves me with the impression that the organisers are either tired men or too busy to sit back and, as I said before, think quietly and slowly as to what they are about.

Architectural perspective is both a large and important subject in the profession. It is of sufficient importance to create a small group who specialise in nothing but the portrayal of architecture in such a way as to give the sense of its three-dimensional quality. The history of such architectural drawing has shown a diversity of styles, a variety of media, which an exhibition can, to its eventual success, classify and display in such a way as to stamp the spectator with the story of perspective.

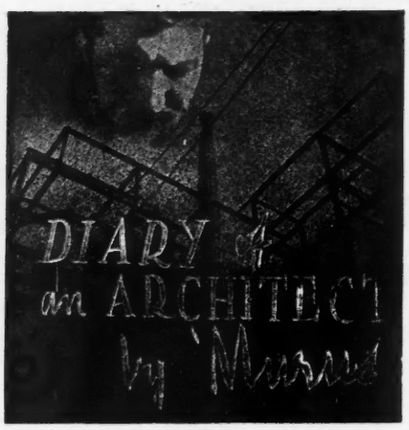
The show at Bedford-square adds not one thing to the art of architectural perspective, and it is a great pity, because the subject has been utterly ignored both by books and exhibitions from the beginning of time.

As one enters the small room at the A.A., a number of vulgar drawings, hung without sequence, blur one's vision, and I doubt if the average visitor will carry away with him any definite impression, either of architecture or perspective.

* * *

Now at this point it would be both apt and expected that either the organisers or the supporters would say of me: (a) it is easy to criticise, and (b) we set out only to show a number of typical drawings by typical draughtsmen, and the last we claim to have achieved.

* An adage which always makes me think in terms, quite aptly, of a milkman's face.



And my answer to both statements is the need for a method of tackling the problem and, further, a suggestion that Edward Carter, of the Royal Institute, be the appropriate person to do it in the R.I.B.A. building.

* * *

The history of architectural drawing is interesting, and a wealth of material abounds, particularly in the library of the R.I.B.A. and the archives of the Victoria and Albert and British Museums.

The base of such an exhibition demands reproductions or originals of such kind of drawings prepared before the invention of the laws of pictorial perspective as we now know them.

The European architectural drawings between the 16th and 18th century are the finest that have yet been produced, yet they are little known and would, if shown publicly, produce a sense of shame among most contemporary draughtsmen. While we cover double elephant sheets of Whatman with smooth washes, these sounder, draughtsmen achieved a monumental sense of design on a piece of paper no larger than 7 in. by 4 in.

A good many of these drawings are in a brown or black ink, and washed with diluted inks of the same colour—if colour be the correct word. The drawings of Bibiena, Wenceslaus Hollar, John Sell Cotman, Humphrey Repton and the Adam brothers (all of which are packed in boxes at the R.I.B.A. Library) ought to have been shown simply because they are among the finest architectural drawings in existence, and this exhibition serves, presumably, to educate an architectural public.

The various technical methods of setting up perspectives is another gap in this exhibition at Bedford-square. There are numerous ways, both complicated and simple, which are the very basis of the work—methods which few designers know about.

Contemporary work, I realise, must have been in the foreground of the organisers' thoughts and, in so far as this aspect is concerned, I suggest that the organisers might have done three things: classified the various media under descriptive headings; collected a greater variety of media, including the reproductive processes, and chosen better examples of architectural perspectives.

I doubt whether the visitors will take the trouble to look into the various techniques used to achieve certain of these works. Peggy Jick, for instance, has two paintings done in oils, one of a London street (35) and a second of the R.I.B.A. building (36). The process was one used by Canaletto in his large architectural paintings, and consists in the laying of glazes and the overlaying of detail.

It is interesting enough for the catalogue to have explained this, together with another oil study of E. T. Thring's (13), which looks rather as if the building had been painted over a coat of stippled oil paint and the details scraped away while the undercoat was dry, the overcoat wet.

There is the use of body colour by Walpole Champneys (39) done for G. A. Jellicoe, and from this same architect's office is a similar drawing (as if derivative of Champney's) in the same medium by Gilbert Chapman (38).

There are some black conté drawings by Keith Murray (31), and William Crabtree (30) which are interesting, though the one of Murray's is enhanced by the fact that it is a photographic print of the original.

In so many ways could this exhibition of drawings have been improved. Why is it, for instance, there are no examples of media which come into the reproductive headings—lithographs, both in black and white and colour, etchings, mezzotints—even the cheaper methods that are possible by the employment of commercial processes.

Such processes open up a large vista for creating a number of drawings of, as yet, unbuilt structures, and though few examples exist, they are important enough to be in Bedford-square.

* * *

In my catalogue are a number of those inevitable scribblings, and they read (with difficulty) something like this:—

Water colour by Chas. Gascoyne (12)—"good example of a brilliant man's work; note the absence of colour, the fidelity of the sense that his London buildings convey." Water colour by William Walcot (17)—"the slickest kind of architectural drawing yet produced." Water colour by Cyril Farey (18)—"a poor example of a good man's work," and this "kingpin" of the profession not adequately presented, *e.g.*, certain of his drawings in Sir Edwin Lutyens's office. Crayon by J. D. M. Harvey (19)—"a typical example." Oil by H. C. Bradshaw (22)—"an experimental drawing (or painting) for an experimental architect." Conté drawing by Keith Murray (31)—"a good drawing by a man whose absence now from architectural drawing is to be deplored." Water-colour by Lawrence Wright (43)—"too like a showcard and not typical of the man's work." Pen and ink drawings by Gordon Cullen (45, 46, 47)—"interesting as an expression of the new technique. Corbusier in feeling, apt to date badly." Line and wash drawing by Prof. A. E. Richardson (55)—"a drawing which suggests the perpetual student." Black and white drawing by George Simonek (58)—"very good."

There are others, but it would seem tedious to continue; and it remains really for me to achieve a tidy conclusion which is triple in its desire.

A. is for William Suddaby, whose two drawings of the Adelphi are by far and away the best in the show. Competent, technically interesting, good in composition and, in short, superb little essays in architectural drawing.

B. is for myself, whose works I cannot well discuss but which gave me a severe

shock, and taught me, in one instance, how not to apply colour.

C. is a suggestion that, if you should attend the show, try hard to separate the draughtsmen and their methods of work. Ignore the architecture and try not to allow the necessary but severe overcrowding of the exhibits to dazzle your vision.

* * *

All of which leaves me a very limited space to make a note of further shows which I have in mind to discuss, and one in particular which has thrilled me enormously, and stands supreme as an example of Industry being the future patron of the Arts.

It is called simply, "See How They Fly," and is the progress of aviation in pictorial form organised by Shell-Mex in their own building, and arranged by JAMES GARDNER and BARNETT FREEDMAN. All that exhibitions *should* be is epitomised in this room, and I count it the finest descriptive exhibition on any subject that I have ever seen. It must have cost a great deal of money, taken infinite time and is worthy of a permanent position in the Science Museum; and, to revert to my first paragraph, it is proof of the possibilities when a man sits back and thinks simply and clearly for a long time. This exhibition, in the centre of a huge industrial concern, is sufficient proof of it being practical, and I think I know who is responsible, though his name is not mentioned.

Up on the seventh floor, in a room overlooking the Thames, is one JACK BEDDINGTON, cultured, Oxford trained, and apparently lethargic. Those posters you see of architectural follies, the small pumps the garage hand gives you to test your nerves—in fact, all the publicity of Shell emanates from this whimsical person, and, if my theory of direct thought requires examples, I would not hesitate to put forward Jack Beddington in London, JAMES THURBER in New York and LE CORBUSIER in Paris.

"Progress in Aviation" is a masterpiece. To use the language of this age, you have three more shopping days in which to see it.

On this particular day I called at three more exhibitions—one was the Exhibition of Living Art in England, at the London Gallery—Surrealism in all its contradictions and personal mysteries—interesting to the psychologist; not, as yet, interesting to me, though I am trying hard and refuse to give up. The other was typical English Art at the Beaux Art Gallery—SICKERTS, JOHNS, STEERS, BONES and RUSHBURYS, out of which I put the Augustus Johns and Muirhead Bones first.

And lastly, an exhibition illustrating the Centenary of Photography, at the Victoria and Albert Museum, which had its points of interest.

As I was passing through those crowded corridors of the V. and A.—stuffed with amazingly good ironwork and pottery—it struck me that not one curator in any London museum is performing his job well if that job is for the purpose of presenting to the public and collectors rare works for their cultural experience.

I thought as I walked that everything of quality is interesting and even absorbing if it is presented well and the description is vivid enough to "get across."

No museum to my knowledge has achieved this, and it is one good reason why such places are not alive—why their staffs are so frightening to the common herd.

Mwrus

COMPETITION NEWS

Proposed New Civic Centre, Margate.

The Corporation of the Borough of Margate invite architects of British nationality to submit designs in open competition for a proposed new Civic Centre to be erected on a site overlooking Hartsdown Park, Margate. The Corporation have appointed Mr. A. F. B. Anderson, F.R.I.B.A., S.A.D.G., of 13, Manchester-square, London, W.1, to act as assessor, to adjudicate on the designs submitted and to make the award. Premiums of £500, £300 and £200 are offered.

Designs must be addressed not later than August 31 to the Town Clerk, Margate, from whom conditions and instructions (deposit £1 1s.) may be obtained. Questions before March 31. Following are points from the conditions:—

The buildings comprised in the scheme are as follows: police headquarters, fire station, municipal offices. The Corporation desire the buildings to be conceived on simple dignified lines with logical and compact planning as the keynote of the layout. No restriction as to style or use of materials will be imposed. Elevations should be simple and in keeping with local amenities and traditions. The site selected is overlooking Hartsdown Park, which slopes gently away from the site towards the south-east, and the most open and important view of the site will be from the east side of Hartsdown Park. It is suggested that competitors, when designing their elevations, should consider the inclusion of a tower which would be clearly visible from the promenade and other parts of the town. No boundaries are laid down for the different sections, but the order in which the buildings are to proceed should be borne in mind, and consideration given to the treatment of sectional boundaries and elevations, pending completion of the whole scheme. The houses surrounding the site are of the two-storey villa type. All Saints' Church is a stone building with a square tower and red tiled roof. The sub-soil is chalk, and a good foundation can be assumed at 4 ft. below ground level. Competitors can also assume that no special precautions are necessary to deal with the presence of water in the sub-soil.

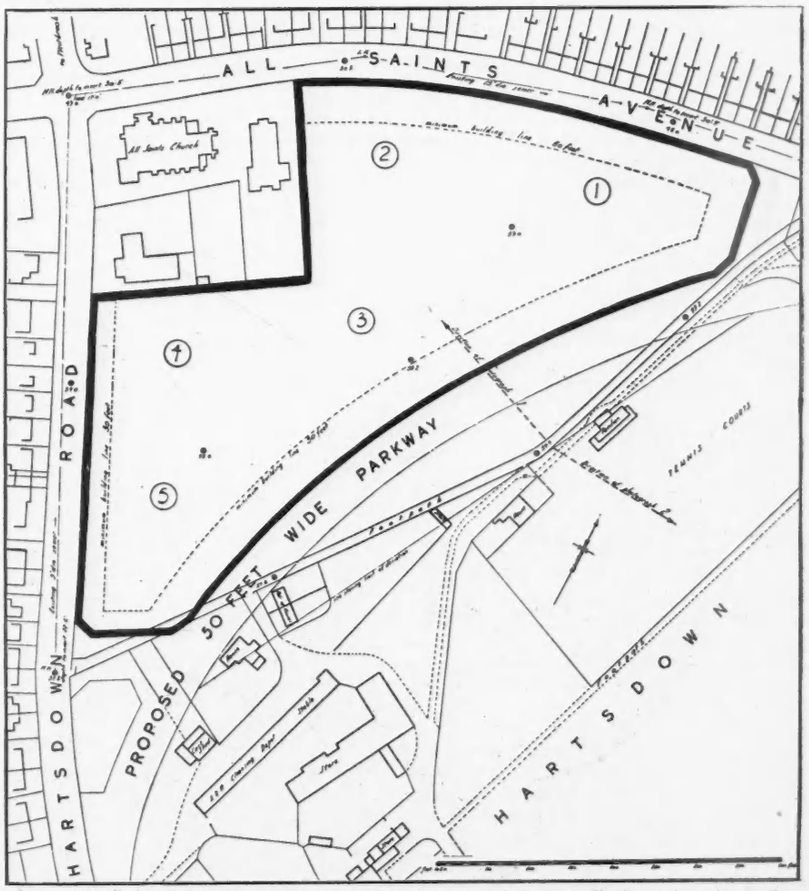
Competitors are asked to bear in mind the importance of economy in the layout and design of their buildings. A schedule of accommodation is given.

New Offices, Fylde Water Board.

The Fylde Water Board invite architects practising in and having a professional address in Lancashire to submit, in competition, designs for new offices proposed to be erected on a site in Park-road, Blackpool. Professor A. C. Dickie, A.R.I.B.A., has been appointed assessor, and premiums of £300, £200 and £100 are being offered. The last day for submitting designs is May 31, and the last day for questions March 25. Conditions of the competition may be obtained (deposit, £1 1s.) from the head office of the Board, Sefton-street, Blackpool, Lancs.

Building Society Headquarters, Leeds.

The Leeds Permanent Building Society propose to extend their head office in The Headrow at the cost of about £100,000. The extension will have a frontage along the east side of Cookridge-street, and will absorb the plot of land adjoining St. Ann-street, now used as a car park. There will be an air raid shelter in the basement large enough to hold 750 people. The architect is Mr. C. Castelow, A.R.I.B.A., 10, Park-row, Leeds, who won a limited competition assessed by Mr. Louis de Soissons, F.R.I.B.A.



COMPETITION FOR CIVIC CENTRE, MARGATE: SITE PLAN.

The figures in circles shown on plan of site indicate general positions of: Police Headquarters (1); Fire Station (2); Municipal Offices (3); Firemen's Houses (4); Portion of site to be reserved for future development (5).

CIVIC PLANNING

By JAMES BURFORD, F.R.I.B.A., A.M.T.P.I.

III.—CAR-PARKING AND REPLANNING.

MODERN traffic and modern traffic conditions have brought about the necessity for a drastic replanning and rearrangement of much that has been handed down to us in our existing towns and cities. The old roads and the old facilities, which answered their purpose well enough for the brougham and the hansom cab, that did all that was needed of them when traffic was, comparatively, a leisurely and almost casual occurrence (though our forefathers were vastly impressed by the crush and pressure of the great metropolis), are only too obviously incapable of meeting the demands we put on them to-day. The urgency of the problem, the insistent claim for readjustment, cannot be denied. Things have come to a pretty pass. The more contrivances we have for moving, the less we seem to move. We gain nothing by having the means without the method, even if I can write this article whilst waiting in a traffic block, with my temper going up and my bank balance going down as the taximeter ticks off the threepences.

That may be an exaggeration, but it points the case. Roads are bad, stoppages and blockages are worse. They cause most of the trouble. With all the restraints and obstructions left us by the past, travelling might not be so difficult if we could keep travelling all the time. That, I am told, is the way to solve the problem. As with the British Museum, you never get through if you stop looking at things! But most of us travel to go somewhere, and not for the mere sake of going. I contend in this regard that even if the primary purpose of traffic is to go, it indubitably has a right to stop, and I, for one, would hesitate to settle the rival importance between them.

I am concerned here principally with the question of traffic which stops, of the standing vehicle and the problems of parking cars as they affect the replanning of existing streets and the rearrangement of existing towns. Replanning and rearrangement—that, and no less, is the undertaking imposed on us by modern methods and by modern needs. That, and no less, is the urgent necessity of our established towns and cities if we are to preserve their life and their virility.

In these columns a week ago I discussed some points relating to the provision of parking places in newly developed towns and suburbs. With an area already packed with buildings and with traffic is no easy thing to make. The readiest and most obvious way out is the one usually followed, that is, the planning of wider roads and the building of higher buildings. This does not necessarily imply, though it often is the case, that the new and higher buildings can have a greater volume than those that they replace. Traffic, in a broad description, is of two kinds. There is through traffic, which has no relation to the buildings along the roads it uses, and local traffic directly related to those buildings. In the second respect an increase in the volume of the buildings will lead, in logical probability, to an increase in the volume of the traffic. As one grows the other grows. Perpetual increase in the city! But no. The difficulty which seems to arise from this threatened fertility proves a mare's nest, though, surely, a nightmare was in it! In a broad way the circumstances set their own limit to the problem. I say "in a broad way," as I am not unacquainted with attendant embarrassments and complications. But assume that the volume of a building increases with its height, and that the volume of attendant traffic is correspondingly enlarged. Then, if the width of the surrounding roads is relatively increased, at the expense of the area of the building site, the size of the ground plan of the building is proportionately reduced. This process continued *reductio ad absurdum* produces a building whose ground plan has a purely theoretical being and an elevational existence represented by a vertical line. In other words, this problem is not to be solved by the provision of wider roads and higher buildings.

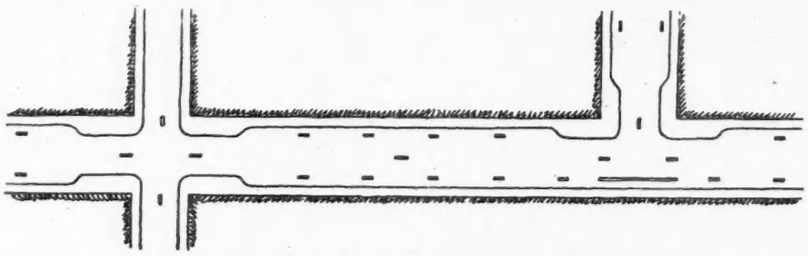


Fig. I. A sketch illustrating diagrammatically the suggested arrangement of a six-lane roadway in a closely planned district. The two outer lanes are reserved for standing traffic, and are protected from use by through traffic by the full projection of the sidewalks at points suitably distant from the incidence of entering or cross roads. Their particular use is further secured by a series of small street islands.

These traffic difficulties are caused, in the main, firstly by inadequate roads, secondly by interruptions caused by one stream of traffic crossing another, and thirdly by the obstacles created by standing traffic. The last is the point at issue at the moment. I think I shall not be contradicted (though on this question of civic planning I am always prepared to be so) when I say that if standing traffic is not to be an obstacle to moving traffic it must have space of its own on which to stand. Space is the particular requirement, and the provision of more space in modifications, which different circumstances will dictate, the same suggestions will be applicable to the replanning of established cities and towns. The difficulty of bringing such suggestions into being will, naturally enough, be increased by the greater complexity of the conditions. The skill and ability of the planner will be more severely taxed. Replanning is seldom a clean sweep. Many of the existing factors must of necessity be included in the new arrangement, and this new arrangement will be, itself, in large measure, conditioned by existing facts.

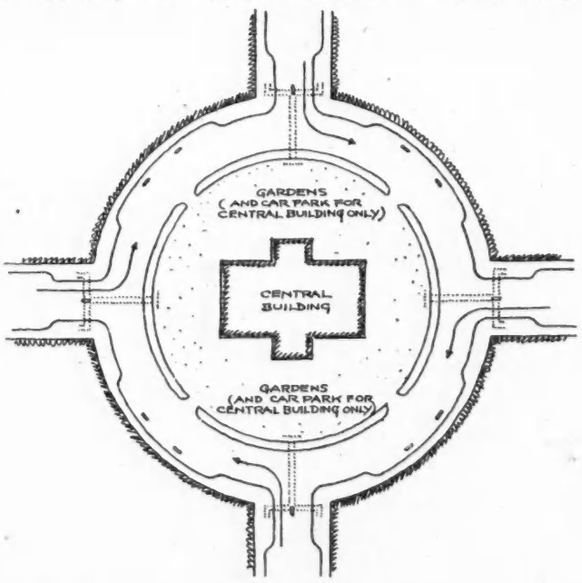


FIG. 2.

Fig. 2 shows, in purely diagrammatic form, the application of the suggestion illustrated in Fig. I, to sites adjoining the crossing of two important roads. It also shows a proposal for the use of the rather large central space which would probably result from this arrangement. The sketch is intended to indicate no more than the general idea of the possibilities. Fig. 3 shows in principle a suitable location of general car parks in relation to the crossing area of two main roads, where this area includes a number of buildings of public resort.

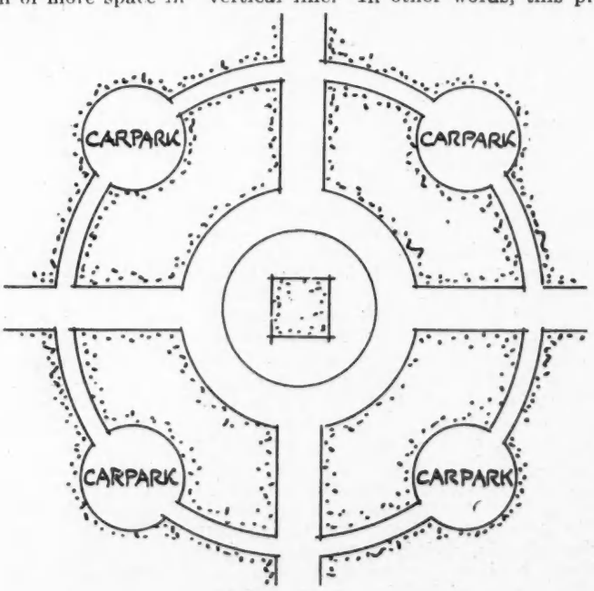


FIG. 3.

lem, taken as a generalisation, solves itself. A widening of the roadway, with a corresponding reduction of the ground area of adjacent sites, with an increase in height of the buildings, must reach a point of mutual maximum relationship. It sounds as simple as proportional arithmetic. But the volume of traffic related to a building is not necessarily conditioned by the volume of the building, but, primarily, by the use to which the building is put. This inescapable fact makes good planning more difficult and wise regulation more urgently desirable.

But to return to the immediate question of parking cars. As a general rule the use of more than four traffic lanes, that is, two lanes in each direction, in any one road, is not advisable. The provision of a greater number of traffic lanes implies the division of the roadway into separate traffic ways which are, in effect, parallel roads. A multiple roadway of that kind has its good points. It can be given a dignified appearance and a civic character. It may, perhaps, be useful where several kinds of traffic have to be considered. But where space is valuable it may not be economic. The strips of ground necessary to make the divisions exceed the needs of street refuges and islands. In this sense they are wasted space. For ordinary uses in civic and urban planning, two streets of moderate width (that is, with two lines of moving traffic in each direction) will generally give better value than a single street of the same total traffic capacity. In the case of a four-lane road, the additional width which, we will assume here, has been acquired by a process of street widening, is best used, not for the traffic which goes, but for the traffic which stops. In other words, the additional width serves the purposes of standing vehicles. An obvious objection to this proposal is that this added width of road, intended for standing traffic, will, unless protected, be used by through traffic. Moving traffic would scarcely resist the temptation to trespass unless encouraged to rectitude by some suitable obstacle. The side road or service road, which I referred to in a previous article, for the use of traffic which stops or intends to stop, is useless without the equivalent of two traffic lanes. It needs, moreover, a division strip between it and the main road. Ways into it and ways out are not easy to arrange in connection with a busy roadway, and they must occur but seldom to avoid confusion. On the whole, it seems that the service road is not fitted to meet the case of standing vehicles in a closely planned area. Some compromise is needed. This, I suggest, may be found in a road of six lanes in width, the two outer lanes being reserved for standing traffic, through the device of blocking the outer lanes by full projections of the sidewalks at points suitably related to the incidence of cross roads. The outer lanes may be further protected for standing traffic by a series of small islands, which may, quite advantageously, be used for purposes of street lighting. The arrangement is illustrated in Fig. 1. I do not claim this suggestion as an innovation, though, if there is just a chance that it may be, it will be at most one step in front of the step before. Objections to the idea will be thankfully acknowledged.

Buildings for public resort—theatres, cafés, concert halls and houses of entertainment and amusement generally—by each attracting, or, as it is said, by creating, large volumes of traffic in one place at one time, need special facilities for standing cars. Such buildings require special provisions in a town or civic plan. Their case is difficult, and it has become a hard case, indeed, since the Restriction of Ribbon Development Act, 1935 (Section 20 (3)), confers power to make the individual private owner pay for inadequacies of public planning. On the other hand, the private owner (not necessarily of places of public resort, but generically) so violently opposed the passing of the Town and Country Planning Bill that the poor thing emerged, as an Act, so battered and weak at the knees that its own father wouldn't know it. I will not pursue the argument, but repeat that buildings of public resort require special provision in a town or civic plan. In the absence of such provision they tend to congregate at cross roads. (I think the public-house—sale of intoxicating liquors—was the first to discover the commercial advantages of the corner site.) The attraction is clear. One really cannot blame them. But the drawback is, of course, that they create standing traffic just where standing traffic is least to be desired.

In Fig. 2 is a suggestion for a method of adapting the proposal I have made above to the requirements of the corner site. This assumes that the circumference of the crossing area can be given a sufficient length to meet the case. The moving traffic gyrates in one direction. The difficulty which seems to arise here lies in the resulting largeness of the central area. As an open space surrounded by a constantly moving stream of traffic it is inaccessible. (Subway approaches to a garden only are likely to be little used by the public.) Municipal authorities may have their eyes on it as a location for public conveniences, as their principle appears to be that necessity is the mother of temerity. It is far from being a proper place for a general car park. Car parks, in such an instance, should, if possible, be planned between the main roads and outside the circumference of the crossing area. Fig. 3 explains the point.

Perhaps the best way to use this open space is to build over some part of it, and, ideally, a building of public resort. Ample space should, however, be left to enable the building to provide for its own standing and waiting vehicles. Paradoxically the use of this central area in part for a building of this kind would enable its use in part as a public garden; for this reason (it seems a psychological matter), the public would be encouraged to use the necessary subways. And if this crossing area we are discussing should be in London the subways, let us hope, will be connected with one of the tube railways, since Mr. Holden, as the Orpheus of the Underground, has done so much to cheer our trips below the roads.

(To be continued.)

Joint Planning Committee for Northumberland.

ALDERMAN H. E. PITT has been appointed chairman of the Joint Planning Committee for Northumberland. A member of the Northumberland County Council, he was made an alderman in 1930 and, in the following year, he succeeded the late Duke of Northumberland as chairman of the Roads and Bridges Committee of the Council. He was appointed a Northumberland County magistrate in 1927. In 1937 he was elected President of the National Federation of Building Trades Employers.

HOUSING IN PADDINGTON

MEMORANDUM OF PROTEST BY RESIDENTS AND OTHERS.

AT a meeting convened on January 26 at the Housing Centre, S.W., by a group of Paddington residents and members of the Paddington Housing Council, headed by Lady Violet Bonham Carter, a protest was entered against a decision by the Paddington Borough Council that it was not necessary to make an architect responsible for the replanning and rebuilding of a large part of the Clarendon-street area, costing over £500,000, but that it could be left to the borough engineer's department.

From a memorandum presented at the meeting we take the following extracts:—

"In February, 1937, the Paddington Borough Council decided to replan and rebuild a large part of a famous slum, namely, the Clarendon-street area, under Section 34 of the 1936 Housing Act. It is to be one of the biggest schemes of its kind in London; over half a million pounds will be spent upon it, 14¾ acres will be covered; the site is near one of the main railway and road approaches to London; and it will affect some 4,000 working-class families.

"On July 22, 1937, the borough council decided that it was not necessary to make an architect responsible for this working-class scheme, and it could be left to the borough engineer's department. There were at this date in the department two assistant architects, one of whom had not yet qualified; a year later there were three assistant architects. The designs and plans are signed by the borough engineer, and he alone is responsible for them. It has at no time been suggested that the responsible control should be placed in the hands of these architectural assistants, nor, indeed, that their experience is in any way commensurate with such a scheme; and furthermore it was admitted in reply to a question asked at the borough council meeting on May 26, 1938, that the architectural assistants had, in fact, no part in designing the initial User Plan (*i.e.*, ground plan), which is now before the Minister of Health for consideration."

Recommending that the scheme should be placed in the hands of an architect, the memorandum proceeds:

"His fees, calculated on a sliding scale percentage basis, would include the provision of the office work, which would otherwise in any case have to be borne by the borough engineer's department. The amount which would have to be reckoned for the services of the architect himself may fairly be assessed at about £1,500 a year. On the assumption that this scheme would occupy him for four years, we are therefore arguing about a total sum of only some £6,000. . . .

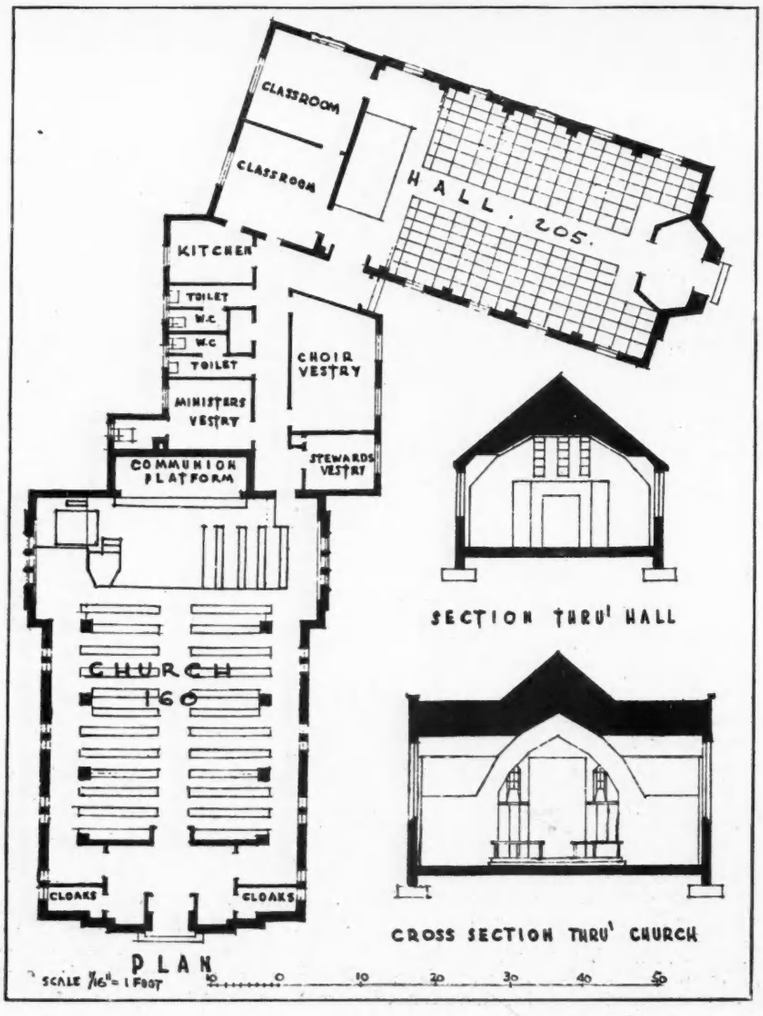
"We regard it as essential that a first-class architect with specialist experience of working-class housing shall be responsible for the scheme from the very beginning. It is still possible to do this, as not only is the User Plan not yet passed by the Ministry of Health, but the whole scheme (for reasons unconnected with the issue we are considering) is in fact in abeyance for the moment. But this reprieve may end any day."

It is understood unofficially that the R.I.B.A. would be prepared to nominate a number of architects for the consideration of the council.

(See Editorial Comment, page 233.)

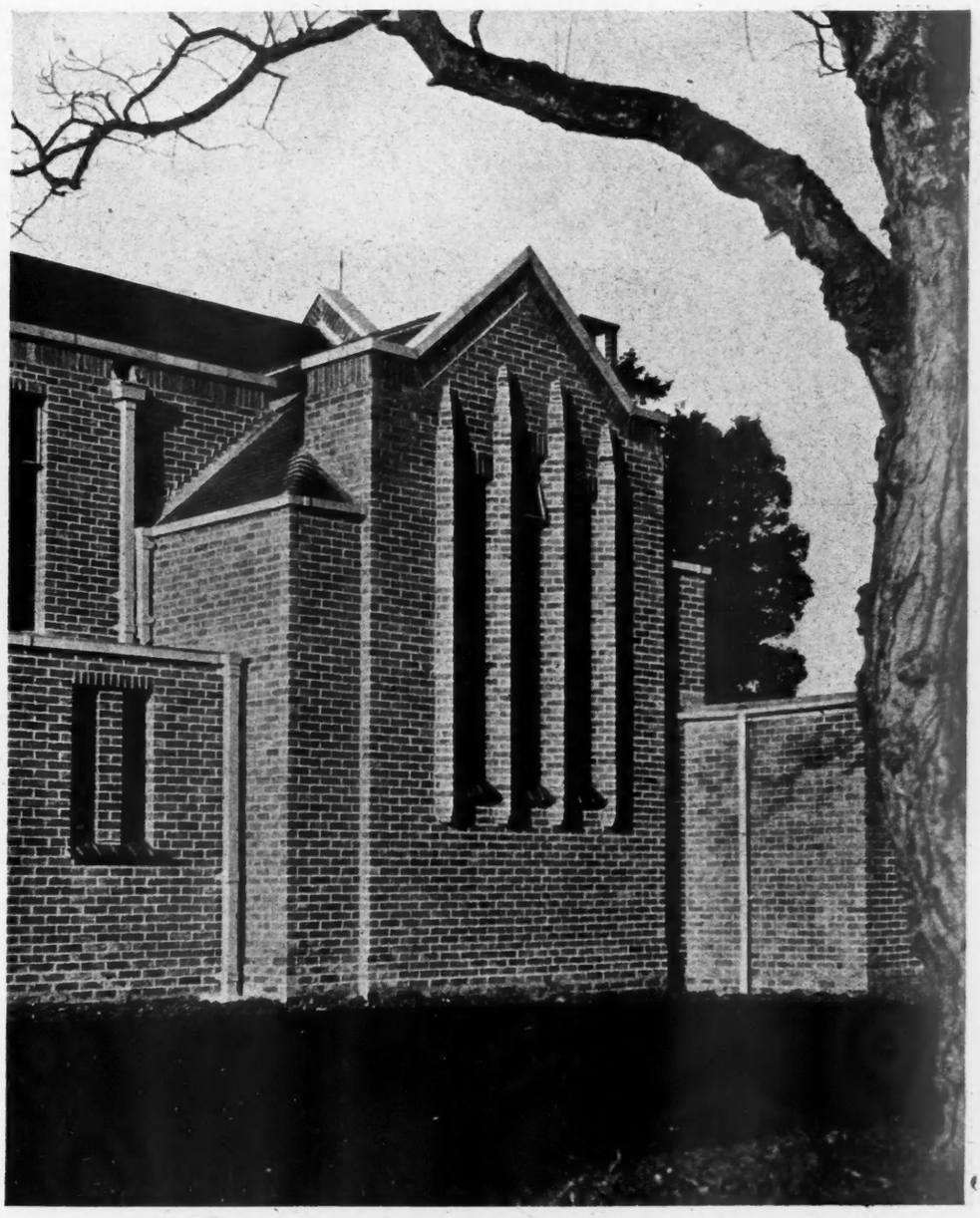
TRINITY METHODIST CHURCH, EAST GRINSTEAD, SUSSEX.

GENERAL VIEW OF CHURCH AND HALL.



Left: PLAN AND SECTIONS

MESSRS. SMEE AND HOUCHIN, F.R.I.B.A., ARCHITECTS.

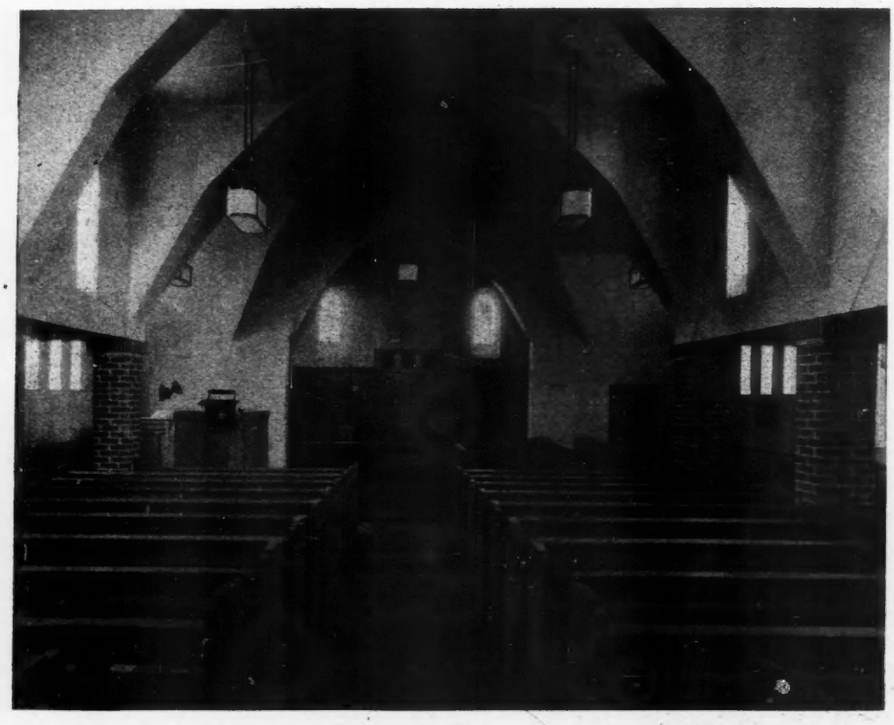


DETAIL OF CHOIR WINDOWS.

This scheme consists of new premises which comprise a church to seat 250 and a hall to seat 225. The church is provided with a vestibule 18 ft. by 10 ft., at either side of which are provided cloakrooms. The Communion platform is in an arched recess. At the rear of the hall are two classrooms each 14 ft. by 13 ft., and between that school block and the church is a corridor from which are entered choir vestry 16 ft. by 11 ft. 3 in., stewards' vestry, minister's vestry, kitchen and two blocks of toilets. The stewards' vestry is separated from the choir vestry by a folding partition, giving a room of a total length of 24 ft. The building is brick-faced, with a tiled roof. The principal joinery of the church is in oak, the remainder being in Columbian pine. Heating is by low pressure hot water. The contract, amounting to about £6,200, was let to Messrs. F. W. Honour and Sons, Ltd., of London Road, East Grinstead.

TRINITY METHODIST CHURCH, EAST GRINSTEAD, SUSSEX.

VIEW OF CHURCH HALL.

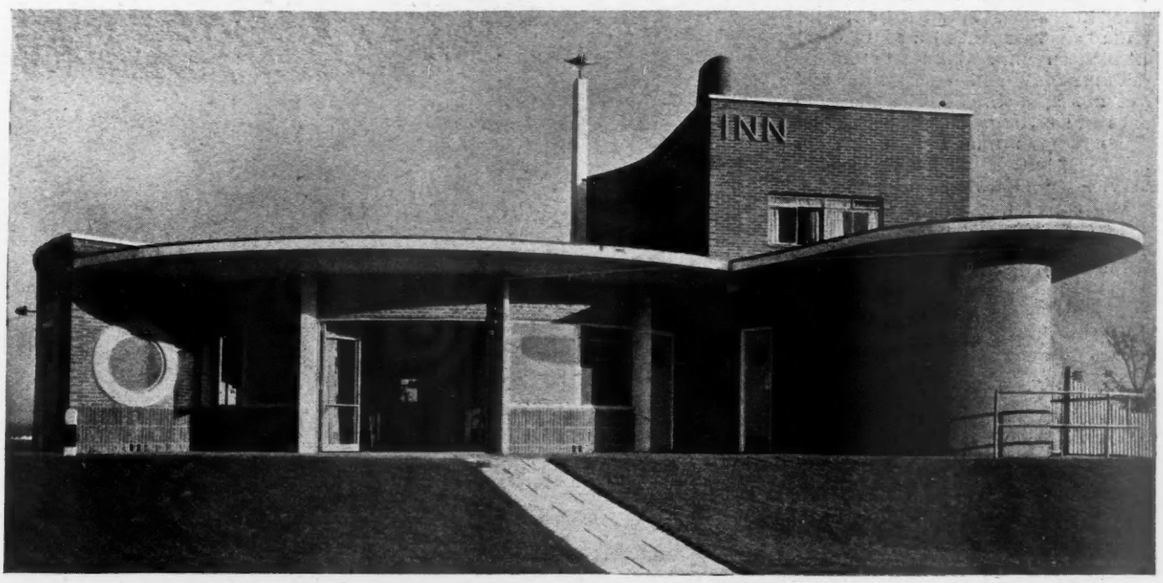


MESSRS. SMEE AND HOUCHIN, F.R.I.B.A., ARCHITECTS.

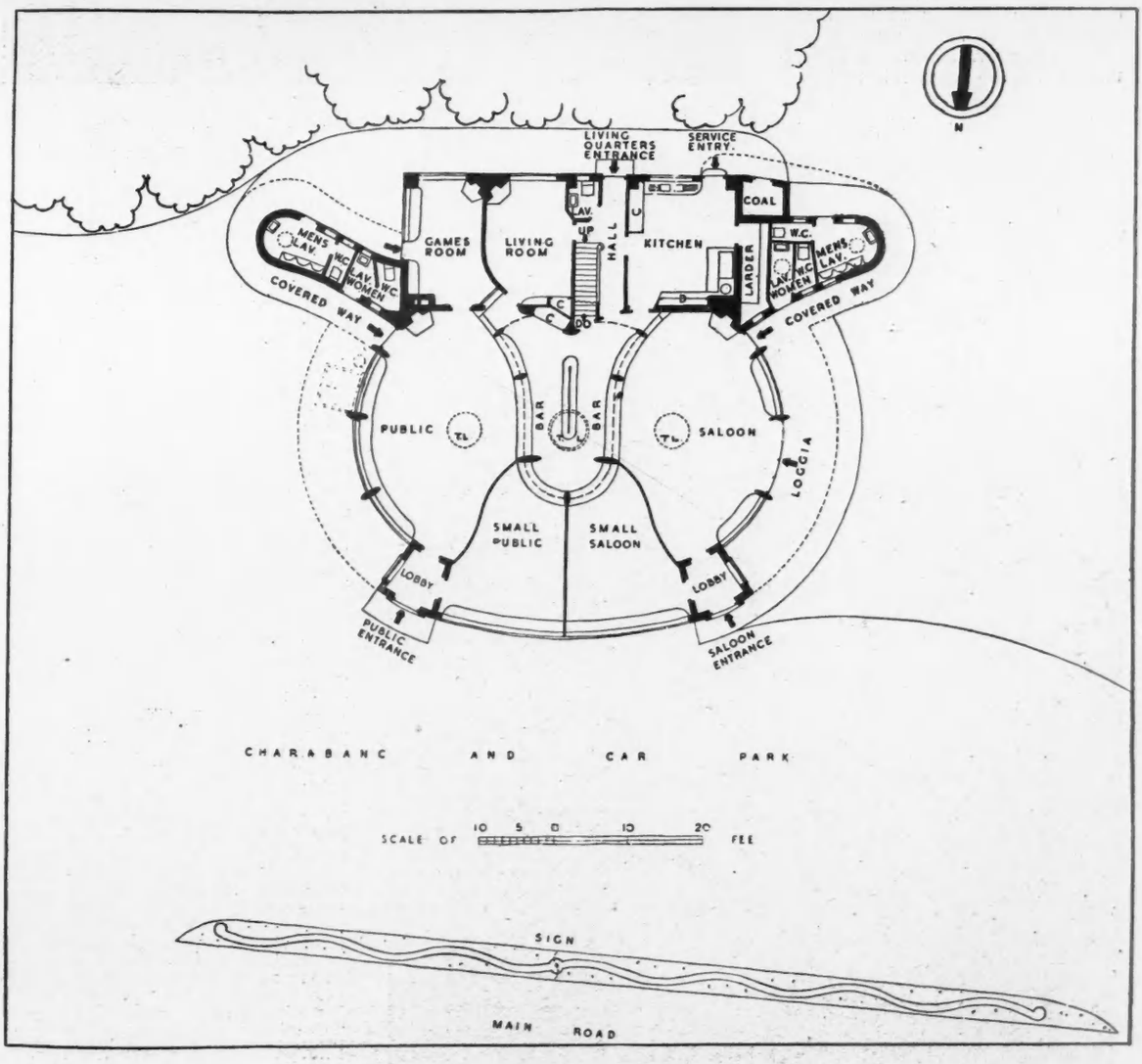
Left: INTERIOR OF CHURCH LOOKING TOWARDS COMMUNION PLATFORM.

THE "PROSPECT" INN, MINSTER, KENT.

MR. OLIVER HILL, F.R.I.B.A., ARCHITECT.



GENERAL VIEW FROM THE WEST.



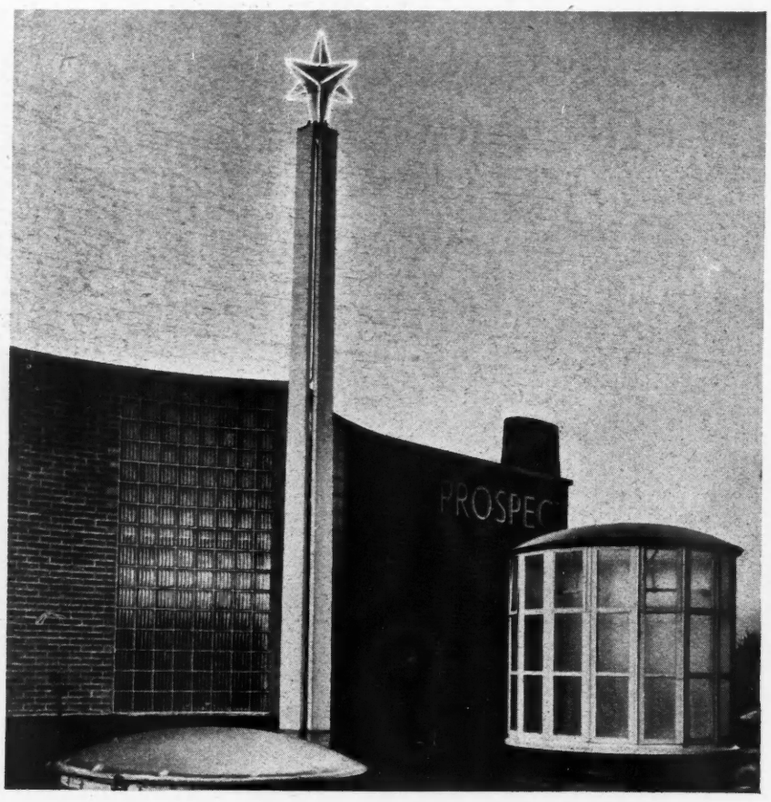
THE GROUND-FLOOR PLAN AND LAYOUT.

THE "PROSPECT" INN, MINSTER, KENT.

PROBLEM.—The problem in designing this new roadhouse on the London-Ramsgate-road (built for Group Services, Ltd.) was to erect a modern inn, up-to-date in its arrangement and equipment and yet not appearing out of place in its rural setting. The general plan form is not unlike that of an outstretched butterfly, with central bar service round which, in the wings, are grouped the saloon bar, small saloon bar, public bar, small public bar and games room, each with its own individual entrance and lavatory accommodation. These are all contained in a one-storey block, the kitchen and living quarters being at the back, with bedrooms over forming a two-storey block.

CONSTRUCTION. — The external walls are of brick construction with steel-framing, and the roof slab, extended over to form the covered ways and loggia, of reinforced concrete. The plinth is formed of special-made Ibstock bricks, laid vertically; the exteriors of the lavatory wings are rendered and coloured a warm russet. On the roof, visible for a considerable distance, is a whitened reinforced concrete pylon, flood-lit at night and surmounted by a Neon star.

INTERIORS.—A feature of the interiors is the cheerful and gay colouring generally and the floorings. These are executed in rubber inlaid with various decorative motifs, *i.e.*—In the saloon bars stylised plant forms; in the small public bar, the implements of a bricklayer; in the large public bar, those of husbandry and some wheatsheaves; and in the games room, games equipment, etc.



VIEW ON ROOF, SHOWING PYLON.

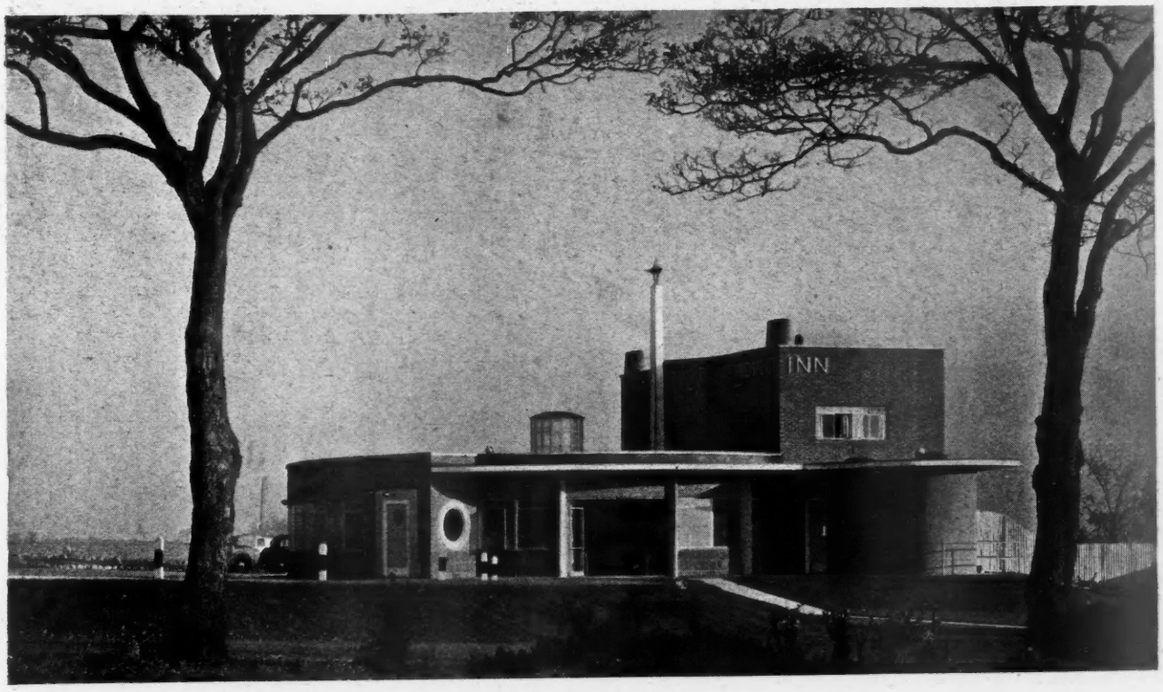
BOUNDARY WALL AND ROAD SIGN.

Contrasting colours and textures are used for the wall surfaces. The corrugated division walls shown in the photograph of the small bar are coloured buttercup yellow, and the bar fronts are natural silver-grey oak.

The consulting heating engineer was Mr. S. Whitmore Robinson, the quantity surveyor being Mr. F. Clive Grimwade. The general contractors were Messrs. Grummant Bros.

Sub-contractors were: Constructional steelwork, Smith Walker and Co.; heating installation, Edward Deane and Beale, Ltd.; electrical installation, Laslett and Co.; lantern light, Haywards, Ltd.; dome light, Pilkington Bros.; metal casements, Crittall Manufacturing Co.; doors and screens, Veneercraft, Ltd.; rubber flooring, Runnymede Rubber Co.; shelving and surrounds, Art Pavements and Decorations, Ltd.; sanitary fittings and road gullies, Alfred Olby and Co.; grip handles, Henry Hope and Sons, Ltd.; electric light fittings, Troughton and Young; external lettering, Percy Smith; external rendering, Cellon and Co.; Neon star and external lettering, Pearce Signs, Ltd.; brick facings, Ibstock Brick and Tile Co.; "Granitex" plastering, B. and B. Plastering, Ltd.; copper-lustre tiling, Pilkington's Pottery and Tile Co.; paint, Thomas Parsons, Ltd.; ironmongery, James Gibbons, Ltd.; and furniture material, Rexine, Ltd.

MR. OLIVER HILL, F.R.I.B.A., ARCHITECT.



VIEW FROM WEST

DETAIL OF EAST SIDE.

THE PUBLIC BAR.

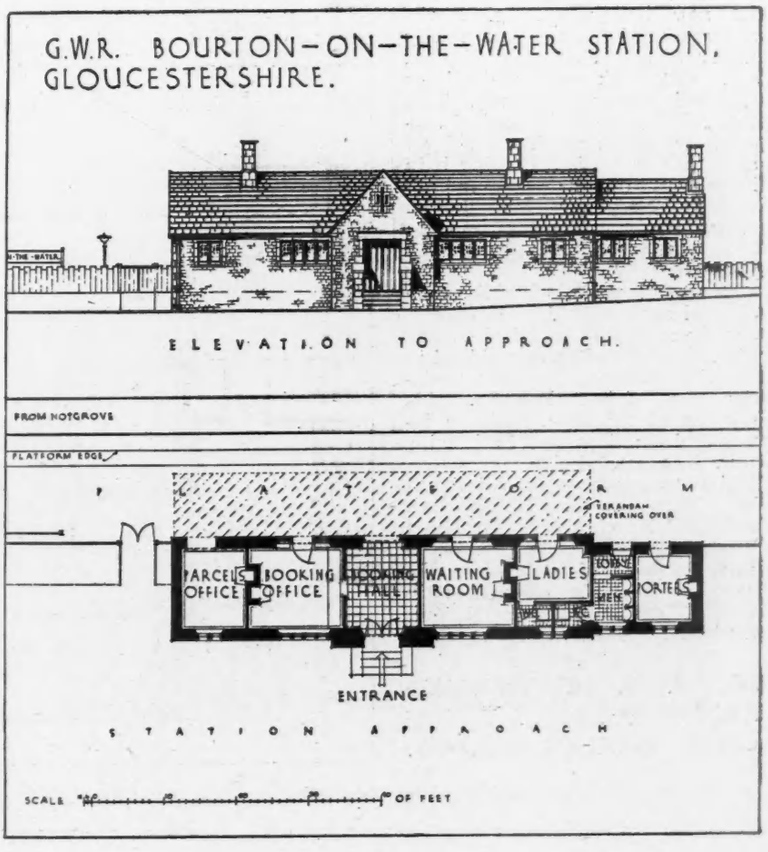
THE SMALL PUBLIC BAR.

THE "PROSPECT" INN, MINSTER, KENT.

MR. OLIVER HILL, F.R.I.B.A., ARCHITECT.

BOURTON-ON-THE-WATER RAILWAY STATION, GLOUCESTERSHIRE.

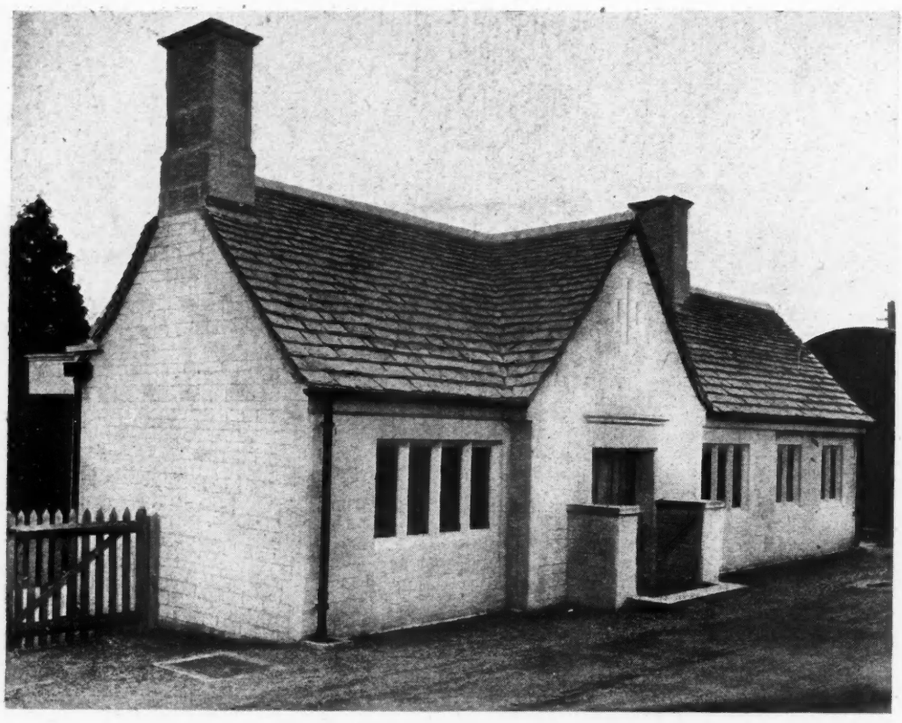
THE ENTRANCE FRONT.



Right: PLAN AND ELEVATION.

MR. P. E. CULVERHOUSE, F.R.I.B.A., ARCHITECT TO THE GREAT WESTERN RAILWAY.

STOW-ON-THE-WOLD RAILWAY STATION, GLOUCESTERSHIRE.



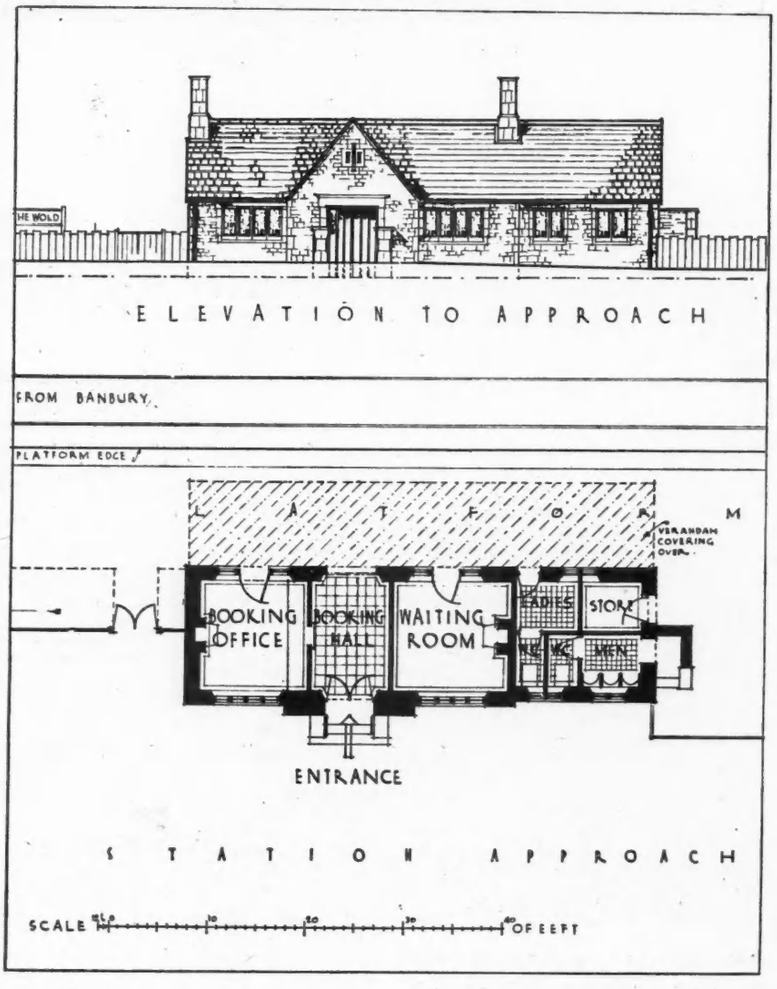
Left THE ENTRANCE FRONT.

BOURTON-ON-THE-WATER and Stow-on-the-Wold, two adjacent stations on the branch of the Great Western Railway which runs through the Cotswold country from Cheltenham to Banbury, have recently been rebuilt in a style in keeping with the typical architecture of the locality. The Cotswold style architecture has the advantage that when used for new buildings it gives the appearance of dignity and maturity rather than of sham antiquity as, say, a "black and white" or thatched construction would. That this rural style can be applied successfully to such a utilitarian object as a railway station, keeping it in harmony with its surroundings without destroying the individuality of its purpose, can be seen from the illustrations on this page and page 247.

The exteriors of the buildings are of local stone with dressed quoins, and the roofs are covered with stone tiles, all executed by men skilled in this class of work. The accommodation provided is typical of wayside stations of this size, and the internal decorations are in keeping with the general design.

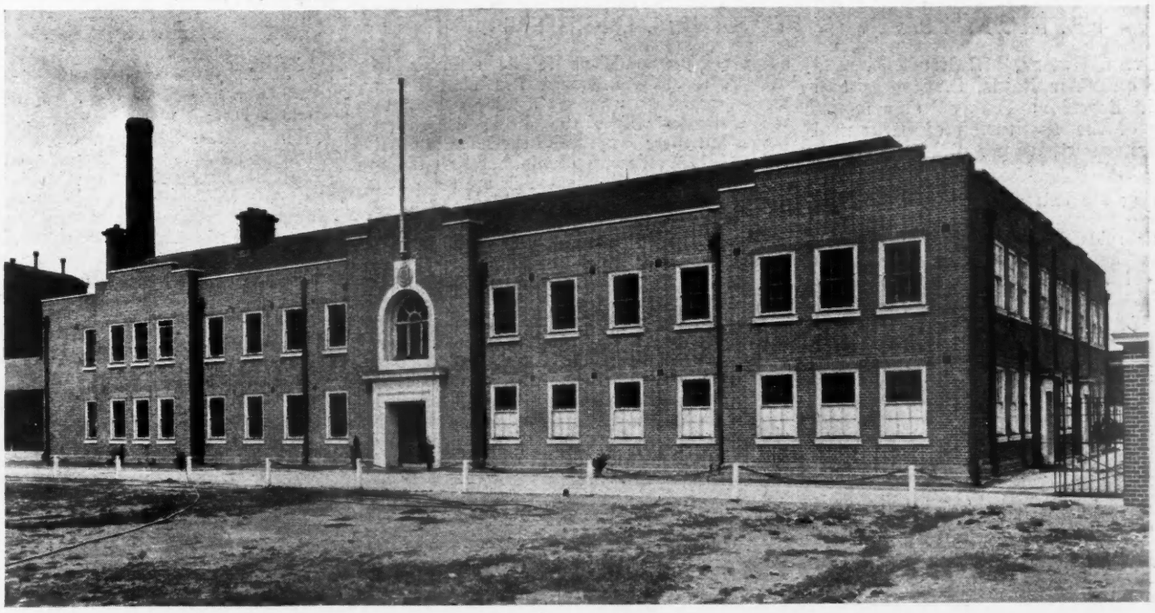
The stations have been designed by Mr. P. E. Culverhouse, F.R.I.B.A., architect to the Great Western Railway. Messrs. W. T. Nicholls, Ltd., of Gloucester, who have considerable experience in Cotswold craftsmanship, carried out the building work on both stations.

MR. P. E. CULVERHOUSE, F.R.I.B.A., ARCHITECT TO THE GREAT WESTERN RAILWAY.



30th (SURREY) A.-A. BATTALION : COMPANY HEADQUARTERS, CROYDON.

MESSRS. J. HATCHARD-SMITH AND SON, F.R.I.B.A., ARCHITECTS.



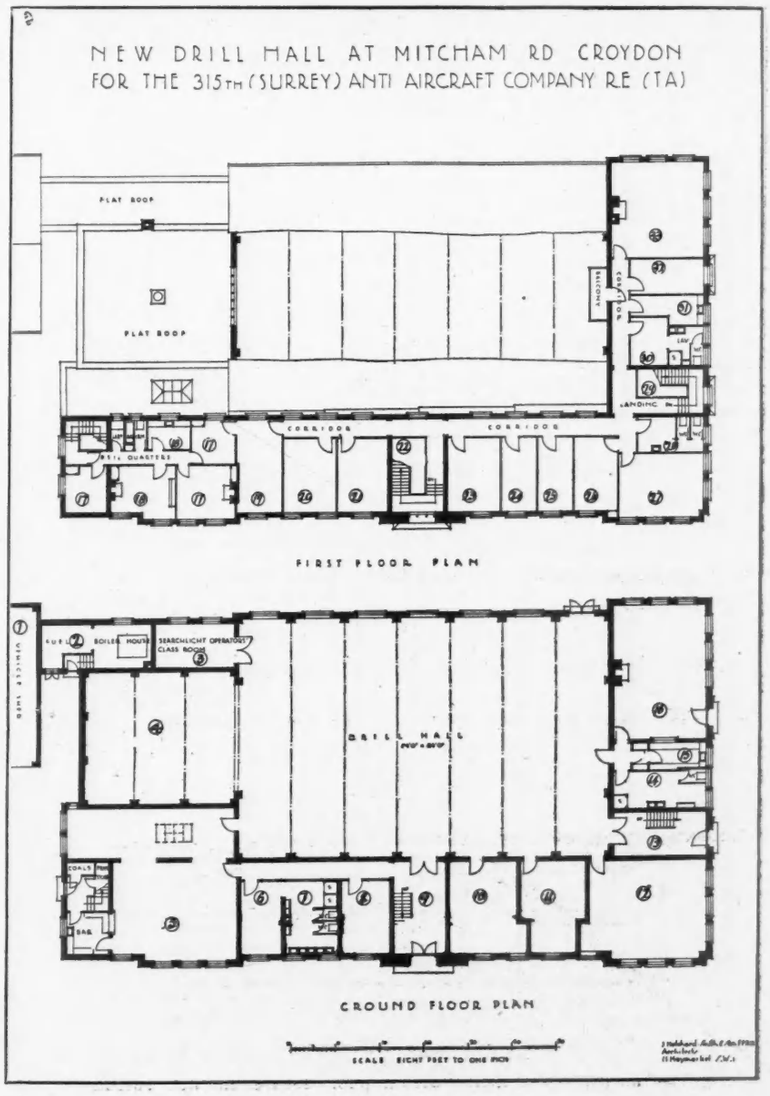
THE new Company Headquarters for the 315th Company of the 30th (Surrey) Anti-Aircraft Battalion, Royal Engineers, Territorial Army, at Mitcham-road, Croydon, was opened recently by the Rt. Hon. Leslie Hore-Belisha, Minister of War. The buildings cover an extensive area and have two frontages, one facing Mitcham-road and the other the parade ground. The accommodation, which is according to the scale laid down, is arranged on two floors around the drill hall, and may be studied from plans. The main entrance is made the central feature, and is carried out in cast stone, with the battalion crest introduced in the key-stone of the arch.

The buildings have slate roofs. The entrance gates and brick piers, with stone cappings, are made a feature, and the battalion crest has been introduced on the gates. The flat roof to the Dark Room and other flats are asphalted. The vehicle sheds are arranged alongside the main buildings.

The general contractors were Messrs. Wilson Bros., of S.W.17. Sub-contractors will be found on page 259.

KEY TO PLANS.

1. Vehicle Shed.
2. Fuel Boiler House.
3. Searchlight Operators' Class Room.
4. Dark Room.
5. Men's Recreation Room.
6. Men's Changing Room.
7. Men's Lavatory.
8. Overall Store.
9. Hall.
10. Technical Store.
11. Company Arms.
12. Company Store.
13. Hall.
14. Sergeants' Lavatory.
15. Bar.
17. Bedrooms.
18. Scullery and Living Room.
19. Spotters' Class Room.
20. Driving and Maintenance.
21. Sound Locator Class Room.
22. Landing.
23. Listeners' Class Room.
24. General Lecture Room 1.
25. General Lecture Room 2.
26. O.C.s Office.
27. Clerks' Office.
28. Ladies' Lavatory.
29. Landing.
30. Officers' Changing Room.
31. Kitchen.
32. Section Office.
33. Officers' Mess.



STRUCTURAL A.R.P. SECTION—I

AIR RAID STRUCTURES IN BARCELONA

MR. HELSBY'S PAPER TO STRUCTURAL ENGINEERS

MR. CYRIL HELSBY, M.I.Struct.E., read a paper on "Air Raids, Structures and A.R.P. in Barcelona To-day" at a recent meeting of the Institution of Structural Engineers, at 11, Upper Belgrave-street, London, S.W.1.

Following are extracts from Mr. Helsby's remarks :—

The air raids which have taken place in Barcelona have been carried out by a diversity of methods and with many kinds of bombs.

In many explosions I visited I found that there were different kinds of damage :—

1. Complete disintegration or rupture of the material which had caused the detonation of the bomb. This damage is relatively small in volume, and does not appear to be much different within the limits of 100 to 300 kilos. bombs. Within this sphere of influence all building materials crumble upon themselves : steel becomes plastic and shears readily, or it snaps in tension with no apparent elongation.

2. The next effect is the damage due to blast. Thin walls of brick, stone or concrete do not have sufficient tensile strength to support themselves against it. They break away completely in almost similar manner to the materials within the direct detonation range, but there is not quite the same internal failure of the structure of the materials themselves. Their bonding materials are loosened; the intense vibration and sudden shock, it appears, cause this. In concrete construction and also in masonry great pieces come apart. Reinforcement in concrete and rolled steel is stripped of cover and both rods and rolled members bend and stretch before breaking. These failures cause bending stresses that spread out over a very great area and are not sufficient to induce simultaneously ultimate stresses in all materials. The result is that brickwork and concrete yield first, followed by timber and steel, and extreme crippling takes place. Extraordinarily great weights come upon the hitherto unaffected members of the structure, and the portions under these influences collapse outwards from the direction of the explosion.

3. The smaller pieces of material acquire great speed and travel a long way from the centre of the disturbance. They have sufficient energy to do damage, and can penetrate thin walls of plaster or fibre, timber floors, doors and windows, but they do not do serious damage to frames or heavy walls. At 30 yards, hard fragments can pierce cast-iron ⅜ in. thick, but a wall rarely suffers more than a shallow spawling for a depth of about 1 in. At 200 yards, only occasional pieces do serious damage, and at 800 yards people do not fear the explosion.

4. The greatest damage of all is now done by the collapse of the upper portions of affected structures owing to failure of supports. The floors, walls and roof of the building fall. One or more walls may fall outward due to blast, but most usually some portion of a wall is pushed outwards by the floor beams becoming dislodged and acting as levers. The forces operate more slowly, and to some extent stresses adjust themselves elastically, but where the resistance of the structure is overcome the failure is very disastrous.

5. The inertia of the gases produced by the explosion creates a partial vacuum which, in unframed structures in Barcelona, has caused most complete collapse. The explosion may exert an instantaneous force against the walls of the building, but the inertia of the air behind the walls assists in maintaining the equilibrium. As the explosive wave passes and the outside pressure is reduced, this passive force immediately changes into an active force, which at once produces a serious pressure towards the centre of the explosion. Its intensity is very probably much in excess of one atmosphere, although its duration is for a fraction of a second only. The buildings which have escaped the direct effects of blast are now subjected to this opposite force, and those portions which were left in unstable equilibrium are brought down. The partial vacuum causes loss of life. The results are often seen by rescue squads who pick up people with no apparent injuries yet who are dead from the effects of the explosion. Frameless structures have suffered very great damage in Barcelona, and a very clear contrast between the behaviour of frameless and framed structures is obtained by a consideration of the former with the few latter which have suffered from direct hits.

The Market Hall in Barcelonetta has a pitched roof of rolled steel trusses supported by cast-iron columns and is very similar in construction to the large railway station buildings in England. The walls were mostly glazed, and the roof had been tiled with glazed earthenware. It has been hit by bombs on innumerable occasions, but the framework still stands erect and, although it has suffered very severe local damage from direct impacts of missiles thrown up by the many explosions, no great damage has been done to the structure, excepting in one instance where a column which supported the apex of the roof at a gable was struck by a bomb.

I found only one example of reinforced concrete structure that had been subjected to a direct hit. That was a market hall constructed with double cantilever beams supported by a single row of columns. This method of construction is becoming very popular in England for railway platform roofs, and is very extensively used abroad for this purpose. A direct hit upon one of the winged beams shattered the beam and snapped some of the reinforcing rods; others were pushed aside and the bomb fell to the concrete pavement below, where it penetrated to a depth of 7 in. before exploding.

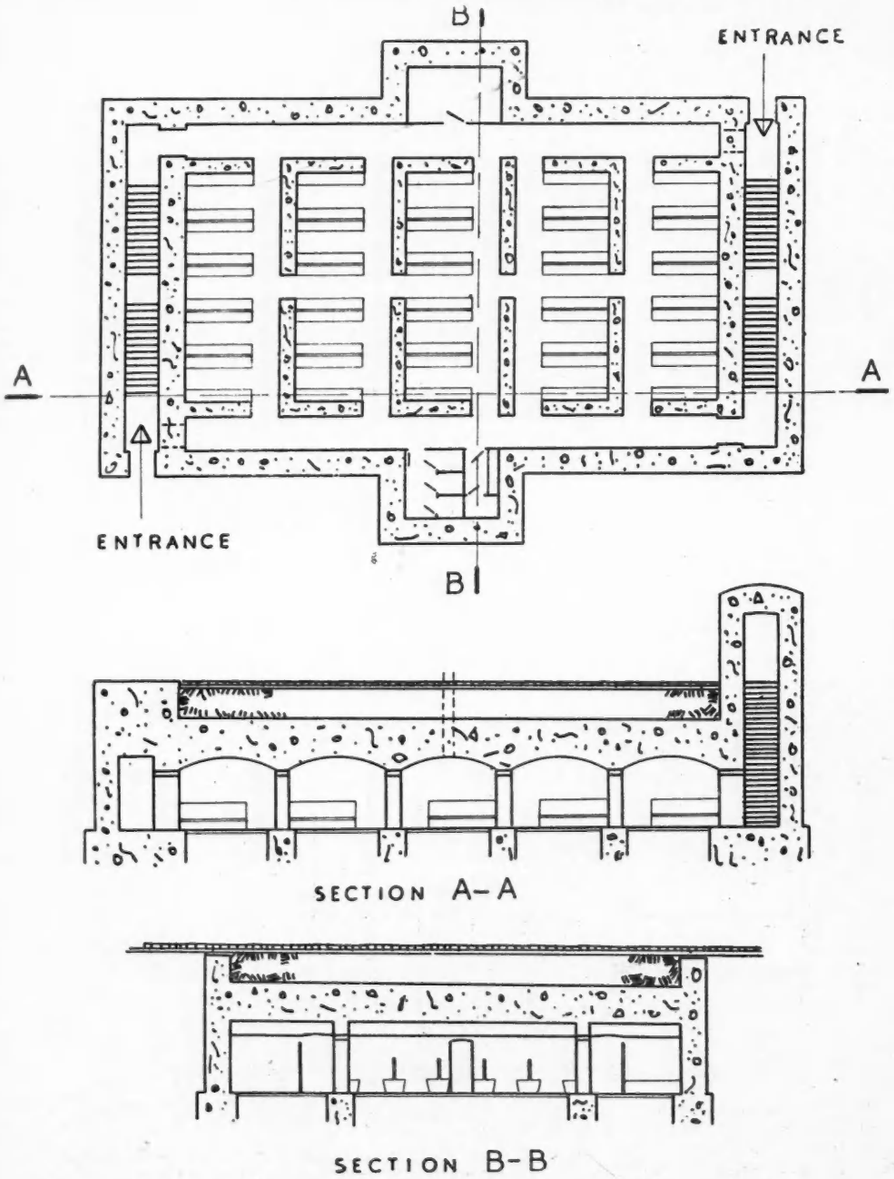


Fig. 1.—This is a typical shelter used in public squares and near schools.

Damage to Framed Structures.

The evidence I have collected leads me to the conclusion that, in the case of framed structures, damage by the most serious bombs used in Barcelona, namely, 1,000 kilos. in weight, can be localised in so far as complete destruction is concerned.

Secondary damage depends greatly upon whether an important column is completely sheared or merely bent or pushed aside. I should imagine that structures that have

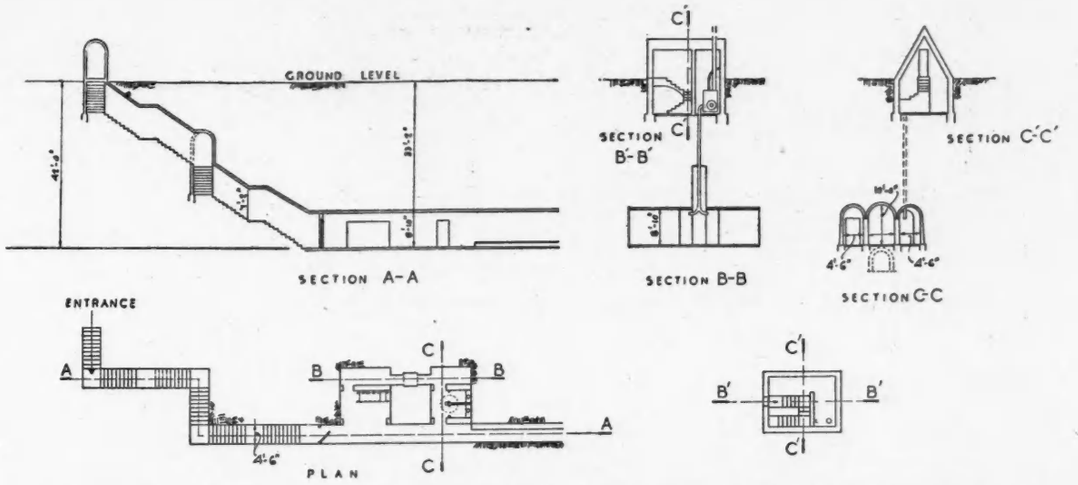


Fig. 2.—This shows a typical street shelter, with details of ventilation. The ventilation shown here is not much used, preference being given to natural induced draught. Gas attacks have not been experienced in Spain.

been designed for earthquake resistance would be immune from general destruction.

It was apparent that the rolled steel beams would have offered very much more resistance to collapse, and may have prevented completely the collapse which did take place in the various limited spheres, had they been rigidly fixed to the columns which supported them.

As regards structural steel frames, I formed the opinion that wire binding, which in Barcelona, as also here in this country, is merely nominal, should be much more substantial in order that the beams can be made sufficiently stiff to withstand the severe loads which may be induced into them when an explosion cuts a support.

Some of the failures were caused by rivets shearing, but many were due to the buckling of the webs of the beams, and heavy reinforcement as binding for the fireproofing material would undoubtedly have saved a good deal from destruction. Welding of joints would have materially assisted in the stabilisation of steel floor beams where they rested upon lintels.

Reinforced concrete, one feels, would very seriously resist bombing attacks, but fortunately the really large reinforced concrete structures in Barcelona have so far escaped.

It seemed very apparent, in considering brick structures, that had there been some methods of tying the floor beams into the walls, often only local damage would have resulted, or, maybe, only severe cracking. The structures lacked internal bracing, such as is most used in this country for holding together buildings which show signs of settlement and cracking.

In the event of buildings in this country being subjected to attacks by hostile aircraft, I am of opinion that the results would be worse than those in Barcelona, notwithstanding the relatively heavy brickwork used here, as against the flimsiness of the construction there. In this country there is the fire hazard to be taken into account. The timber floors and roofs and also the timber partitions so frequently used here would certainly catch alight in very many instances even were there no incendiary bombs to start the fires.

In regard to A.R.P., Barcelona has achieved a remarkable measure of success. The deaths occurring in raids less than a year ago were never less than several hundreds in each raid.

Out of 455 bombs which fell in five days while I was in Barcelona, the casualties were approximately two people killed, 10 people injured, 20 horses killed, and one motor lorry seriously damaged.

From early documents which I was allowed to inspect, it would appear that Barcelona in the first days of the war went through the same phases of development as we are going through in regard to their A.R.P. Sketches showing how to plaster up the cracks and corners in rooms against gas and to strut up ceilings against bombs were made and exhibited to the people, and so on.

Instantaneous Fuse Bombs.

In cases where bombs with instantaneous fuses are employed they usually blow off the roofs of the houses they strike, or blow holes into walls if they strike balconies. Most often, too, they blow off the kerbstones if they strike the roadway.

The delayed-action-fuse type of bombs make

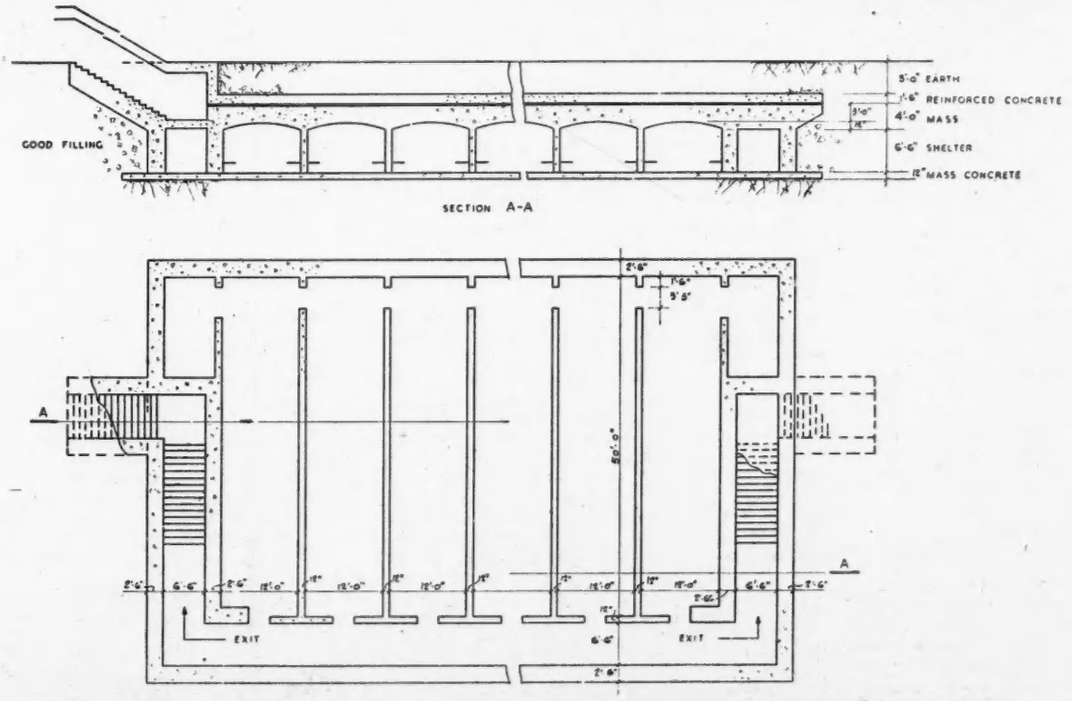


Fig. 3.—Underground shelters for large numbers of people are placed near open squares and theatres, or where it is likely that crowds may congregate. The plan adopted is almost invariably similar to the one shown, and is made as simple as possible in order that the people shall not become confused should a condition arise that may, under other circumstances, produce panic.

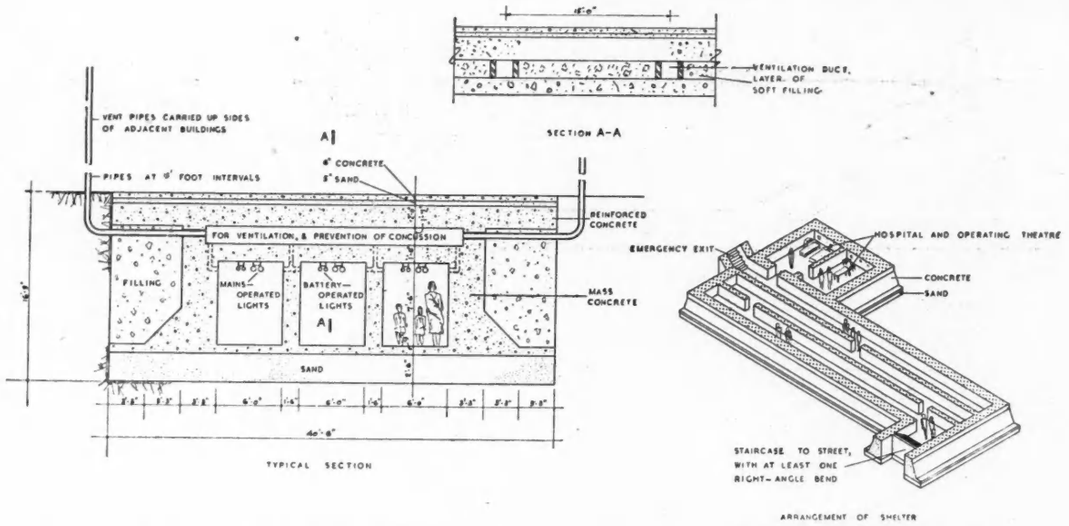


Fig. 4.—REINFORCED CONCRETE SHELTER.—A shelter at ground level under a square which has water at 16 ft. below surface was constructed on similar lines to this. The isometric does not give a true plan of the shelter, but principally illustrates the method adopted for the interior generally.

great craters in the ground in striking the earth, or drill through several floors, and explode in the lower portions of buildings. As one cannot determine the type of bomb which is going to strike, it is unwise to be either in the top floor or in the basement during an air raid. In a framed structure I should imagine the safest place would be around the third or fourth storey, if one could not seek other shelter. This rule cannot be followed even approximately, for the bomb may strike beams and even columns, causing explosion in the second, third or fourth floor. Everything, therefore, points to bombproof shelters being essential, and in Barcelona bombproof and not blastproof shelters are the general rule.

The shelters provided are sufficiently close together in the streets that one is rarely more than 200 yards away from the entrance of one. They invariably have several exits, so that, in the event of an accident occurring or a building collapsing over one entrance, the people can emerge from an alternative.

One method that is very much favoured in the streets of the city is that of tunnelling from the pavement down to a depth of about 45 ft. and then proceeding in long galleries underneath the houses in a complete square, maintaining a position approximately under the centre of the buildings. Subsidiary galleries connect, in the shape of a cross, the four main shelters. These mostly give access from one to the other in case of accident, but they are frequently used as safe refuges. Such a shelter is considered ample to take all the pedestrians and inhabitants in the vicinity.

The open squares have shelters of a different type. They are very much more shallow, and have very many layers of reinforced concrete, sand and gravel, and earth packing which give protection to the people against the heaviest bombs used. The capacity of these shelters varies from 700 up to in some cases 7,000. Several exits are invariably constructed. Other shelters are built into basements alongside the outer walls, very heavily protected with reinforced concrete of several layers, with still further protection in many instances of the ground floor and the pavement. Great importance is attached to the multi-layer method of protection, which, it is claimed, gives protection against concussion.

Shelters in the open air are made where open-air workers must of necessity be employed, and these are built in similar manner to those below ground level in basements, excepting that the protection is slightly better, greater care being taken in deflecting, if possible, any bomb which may chance to fall upon the shelters.

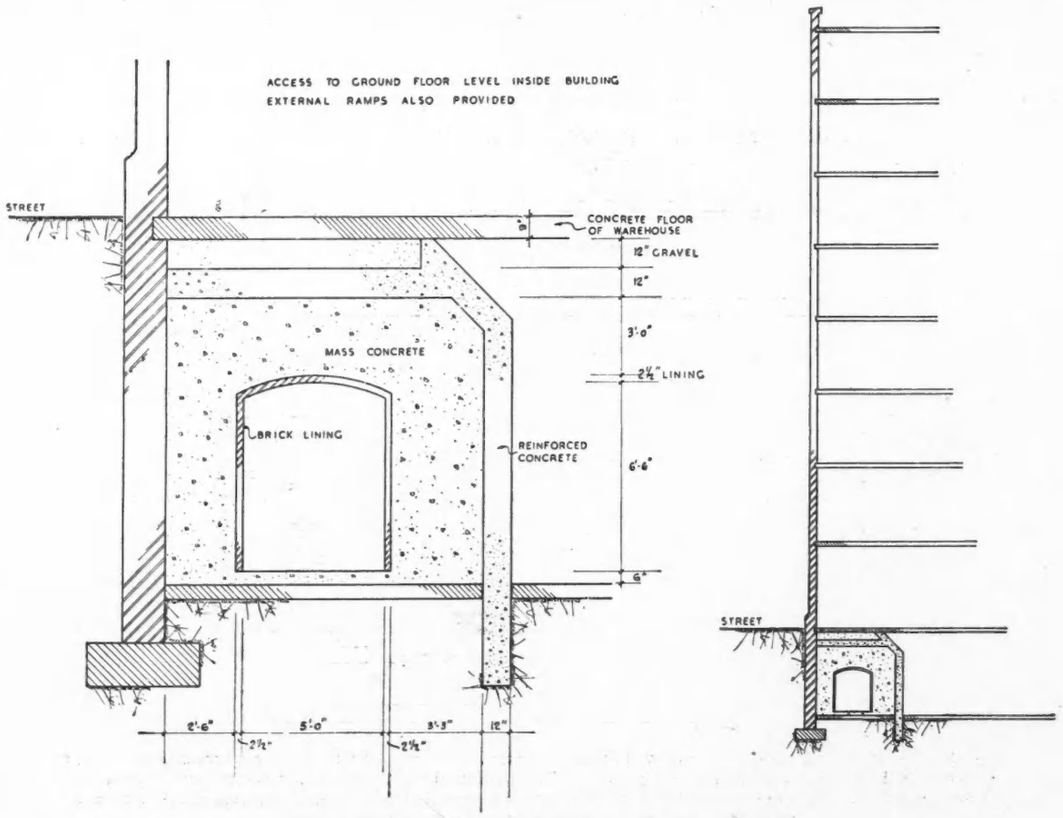


Fig. 5.—Other shelters are built alongside outer walls in the manner given in this illustration. The brick lining has been used instead of shuttering for the concrete.

Still further shelters are built into hillsides, and these provide great security. The people also use the underground railway stations as shelters, and since the live wire is carried overhead they can crowd on to the lines in an emergency, and very many thousands take shelter under such conditions.

The authorities informed me that they preferred seats of open battens to any other method of seating, as the open battens allowed for the fumigation of the shelters, whereas solid seats give considerable trouble in that respect.

Lavatory accommodation is provided, and there are at least two lavatories in each shelter and often running water. Drainage in many instances is by soakaways, since the shelters are too deep to get the waste into the sewer. Others are provided with pumps.

Simple Floor Plans.

The designers of the shelters make a great point in the simplicity of the floor plan. They claim that easy symmetry is absolutely essential in order to prevent panic in case of emergency.

All shelters receive particular attention in regard to ventilation; the authorities consider that each person should have 5.25 cubic yards of space and an air change of at least one cubic yard up to total air change in one hour. Arrangements are made in many shelters for this to be produced artificially, but in most of the shelters which I inspected, natural induced ventilation was very successful.

A very important lesson can be learned from Barcelona from which we could benefit. It has been demonstrated there many times that shelters can be made bombproof. Economics control the use of enormous bombs of 9 ft. high, and weighing over a ton, excepting for very definite purposes, but even these bombs can be kept out by properly constructed shelters. Bombs above this weight need hardly be taken into account, because of the inability of the planes to carry sufficient number to make it worth while using them against the civil population, the true military objective, and the cost of an abortive raid will not encourage an enemy to do much bombing with such exceedingly heavy bombs.

Against the high-explosive bomb of 300 kilos, perfect protection to all the inhabitants of the country can be given. This includes towns and villages.

One serious factor here is the weather, and all shelters must be made weatherproof. In Barcelona some lavatories are white-tiled. I mention this to show the care with which they are constructing their refuges. We must provide heating in refuges and also entertainment.

Schools must be able to carry on inside the shelters, and women in the home shelters must be able to carry on domestic jobs. Preparations for the population to sleep in shelters must certainly be made, and the family life must not be destroyed. Food must be stored in the shelters and rations served during emergencies by the authority in charge of the shelters. Strong rooms for safeguarding of archives, jewels, bank documents and bullion should be provided, and naturally all this should be under police protection.

It therefore brings one to the suggestion that the police section houses that are now projected for construction throughout the country, and in particular in the Metropolis, should be redesigned to include very large shelters capable of providing the services just outlined. The shelters should be large enough to house several thousands of people in each, in addition to storing food, and should also be equipped with kitchens that could supply thousands of hot meals per day.

Such shelters would prove of value in keeping up the morale of the people.

Shelters in Playgrounds.

In addition to the section houses, there should be adequate shelters in all school playgrounds. There should also be sufficient shelters in the areas of all blocks of flats, and in all cinema and theatre car-parks; large enough to house all the people for whom accommodation is provided, together with an added amount for passers-by and local people in the neighbourhood.

Public squares and parks should also have ample shelters. There should be small shelters in practically every street, and certainly in all populous districts.

No new building, such as an emporium, theatre, cinema, block of flats, factory warehouse, or anywhere where numbers of people may be congregated or be employed, should be allowed to be constructed without adequate provision below ground for safety against direct hits from bombs.

Where underground tunnels can be driven, they should be diverted to come below structures that have no basements. Otherwise they should be constructed below that portion giving the greatest earth cover.

Frequent paper or other joints should be left for isolating concussive effects. Buildings should have frames, and this applies, in my opinion, to dwelling houses. The benefit of a frame where small houses have been attacked has been apparent to me, since so much of the structure has collapsed because of the taking away of a portion of a supporting wall.

THE GOVERNMENT SPECIFICATION FOR A.R.P. TRENCHES

We have received the following report from the A.R.P. Co-ordinating Committee:

The Home Office issued in November, 1938, a document entitled "Specifications, etc., in regard to permanent lining of trenches." In January, 1939, this document was re-issued with considerable amendment. An accompanying circular stated, however, that all work commenced on the original design might continue, the implication being that the original design is structurally and otherwise an adequate one, notwithstanding the amendments.

The following comments on the original design may be offered: A factor of safety of three was specified. On a generous estimate of an ultimate strength of 30 tons per sq. in. for steel, this would allow a stress of 22,400 lb. per sq. in. in the tensile steel reinforcement (against the usually accepted 18,000 lb. per sq. in. in reinforced concrete work).

The specified concrete mixture of 1 : 2½ : 3½, if taken (again generously) to be equivalent to the 1 : 1¾ : 3½ mixture specified in the amended specification, would, according to the Code of Practice, correspond to ordinary grade concrete with a strength of about 2,400 lb. per sq. in.—or a working stress of 800 lb. per sq. in.

An analysis, on the generally accepted principles of reinforced concrete design, reveals the following stresses under the loads specified in the document:

Member.	Concrete stress.	Steel stress.
Roof slab	747 lb. per sq. in.	29,900 lb. per sq. in.
Wall slab (at bottom) ...	1,674 ,, ,, ...	39,500 ,, ,,
Uprights	1,574 ,, ,, ...	26,620 ,, ,,
	(1,258)* ,, ,, ...	(20,950)* ,, ,,

* (These are the stresses that would be produced by the loadings in the revised document.)

In the other members the stresses appear to be within the usually accepted limits of 18,000 lb. per sq. in. for steel and 750 lb. per sq. in. for concrete in bending compression.

It would not be amiss, however, to point out several unusual features of the design.

The most prominent of these is the roof beam, with most of its thickness cut away at the point where it is most required, exposing it to the very serious risk of failing in shear at the end. Again, extremely little clearance has been allowed for it to fit over the upright, necessitating most exceptional accuracy in casting. A further feature of this member is the sharp bend in the reinforcement at the point of maximum bending moment, with the probability of the reinforcement stress causing the concrete to spall off under the apex of the beam.

The wall slab arrangement is also rather unusual, for no method is shown of retaining the slabs in position, and there is a gap behind them, which, if the walls of the trenches are not very accurately excavated, might be sufficiently wide to allow one slab to slip behind another. (It will be noted that the joints between wall slabs are not intended to be grouted.)

Compared with the wall slabs the arrangement of the roof slabs is relatively sound, although some criticism might be made of the overlapping joints.

A feature common to all members is the extremely small amount of cover shown—as little as half an inch. Even were the members sufficiently accurately cast to ensure that there was in no place a reduction of this cover, it is doubtful whether it would be sufficient to prevent corrosion of the steel, and consequent failure of the members. It should be borne in mind that condensation in these trenches is to be anticipated, with the result that the surface of the concrete would be almost continuously damp.

A point in the layout of the system that should have been elaborated is the method of gaining access to the emergency exits. The plan shows these to be in the roof over the middle of trench junctions, and ladders would therefore be required, whereas it would have been a simple matter to have planned them against the trench walls, so that step irons could have been used and left permanently in position; as it is, each ladder must be removed when the trenches are used, or it will cause a considerable and undesirable obstruction to the passage ways.

Where L.C.C. regulations may have to be complied with it is worthy of note that they specify a minimum cover of 1 in. for reinforcement, and a minimum diameter of ⅜ in., as compared with the stirrups shown in the posts, labelled ⅛ in. diameter.

It would also be of interest to learn whether the figure of 75 sq. ft. of wall space per person recommended by the Home Office for sealed refuge rooms, is intended to apply to trench shelters: the surface area available in the Home Office design appears to be in the region of 25 sq. ft. per person, which would seem to imply the trenches are not intended to be gas proof.

Most of the foregoing points are equally applicable to the trench specified in the revised document, which differs in a number of points from the original. Most of these divergencies are accounted for by the correction in the new document of a number of mistakes in detailing which appeared in the original, such as making no allowance for the clearance at rebates in dimensioning of members, or allowing tolerance in the grading of the aggregates. Incidentally, it appears to have escaped notice that in the revised document the dimensions of the roof beam give 4 ft. 6½ in. between wall slabs, against the figured dimensions of 4 ft. 8 in.

In the new specification the use of rapid hardening cement is optional, which it was not in the original. High tensile fabric is specified for all slabs, instead of mild steel bars. The mix of concrete is altered from 1 : 2½ : 3½ to 1 : 1¾ : 3½ (nominal).

Provision is now made for taking test cubes, and a minimum 28-day strength of 2,500 lb. is specified.

It has been discovered that the units for which prices were taken out in the original covered a length of 1 yd. 3 in., not 1 yd. as the method of billing indicated, but the price per yard run has not been reduced. It is worthy of note, however, that although the original document gave a de-

tailed estimate, showing how the figure was arrived at, the new document gives no details. Generally speaking, the dimensions of the members have not been materially altered, with two exceptions: all slabs have had fabric substituted for rods, and the wall slabs have been increased in thickness from 2 in. to 2¼ in.; also the reinforcement in roof and floor beams has been reduced slightly, but in neither of these is the stress excessive.

The detail of the roof beams has been slightly improved, and the recess for the posts strengthened with reinforcement; it is probably adequate as revised. The sharp bend in the main reinforcement, however, remains the same, as does the space behind the wall slabs and the position of the exits.

The most important changes, however, are the reduction of the load on the sides from 200 lb. per sq. ft. at the top, to 100 lb. per sq. ft. It must, however, in justice be pointed out that this is probably sufficient (Rankine's Theory) for the 40 deg. angle of repose specified for the surrounding earth. It must at the same time be noted that this design (according to the revised issue) *is not intended for ground having an angle of repose of less than 40 deg.* But there is also a note that "Local Authorities will not be at liberty without special authority to adopt an alternative design which will be more costly (than the standard design)." This is rather unfortunate for authorities which have excavated trenches in material whose angle of repose is less than 40 deg.

The other important change is the omission of the safety factor of three, and the substitution of permissible stresses 25 per cent. greater than those given in the Code of Practice (or the British Standard Specification in the case of steel linings).

The table on this page indicates the effect of the new specification on stresses.

Sufficient details are given of the extra thick slabs at the junctions to calculate stresses, but allowance should have been made for direct concentrated loads bearing on the wall of the emergency exits.

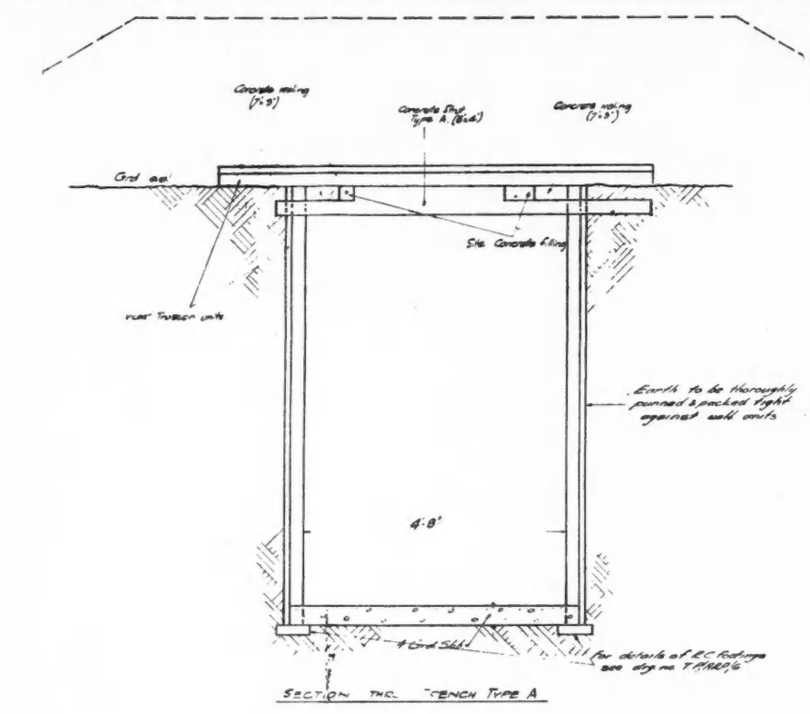
It should, in considering the adequacy of the permissible stresses, be borne in mind that in use these trenches may have to withstand abnormal shocks, whereas the specified loads appear to be only those to be anticipated in normal circumstances, and it would be of interest to learn what justification there has been for so increasing stresses over normal practice.

The design has been used as a basis for estimating the permissible expenditure on revetting trenches, and local authorities may proceed with any design conforming to the specification provided that it does not exceed this figure. It should be noted that some firms claim to be able to produce linings at a cost within the Home Office figure, and it is possible that some of these designs conform to the specification.

TABLE SHOWING EFFECT ON STRESSES OF NEW SPECIFICATION.

	Concrete.	Mild steel.	High tensile steel.
Code of practice allowable maximum stresses	800 lb./sq. in.	18,000 lb./sq. in.	25,000 lb./sq. in.
25 per cent. over the above ...	1,000 ,,	22,500 ,,	31,250 ,,
Calculated stress in roof slab ...	796 ,,	——	*32,300 ,,
Calculated stress in roof beam ...	486 ,,	15,130 ,,	——
Calculated stress in wall slabs ...	1,050 ,,	——	*32,250 ,,
Calculated stress in wall posts ...	1,150* ,,	(19,500 (in bars)). (*39,400 (in stirrups)).	

* These stresses are more than 25 per cent. in excess of the Code of Practice.


Grid as
Site Concrete filling
Earth to be thoroughly rammed & packed tight against wall units
4'-8"
SECTION THRO' TRENCH TYPE A

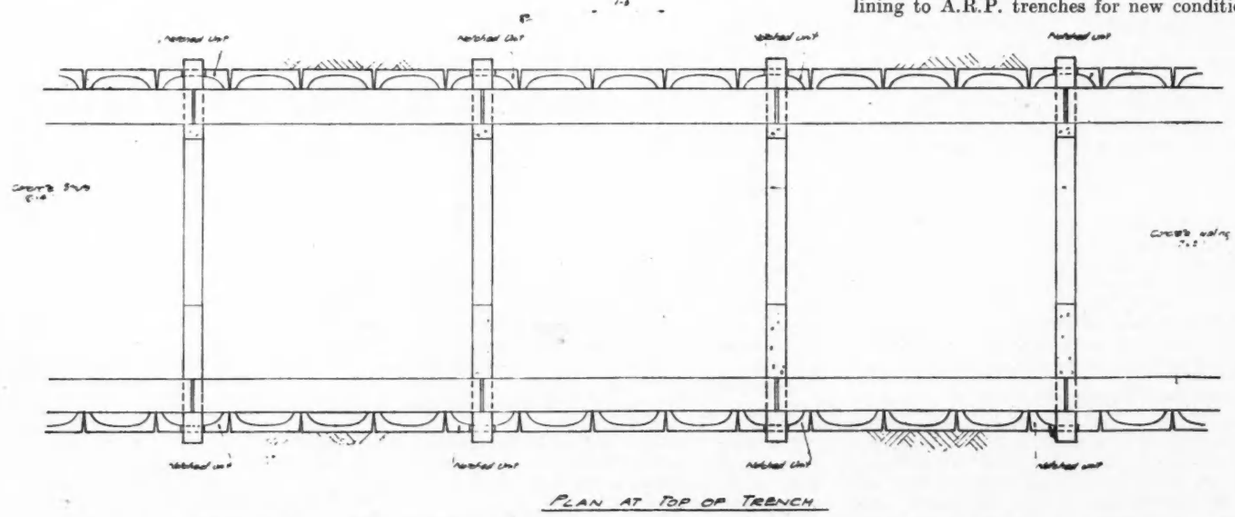


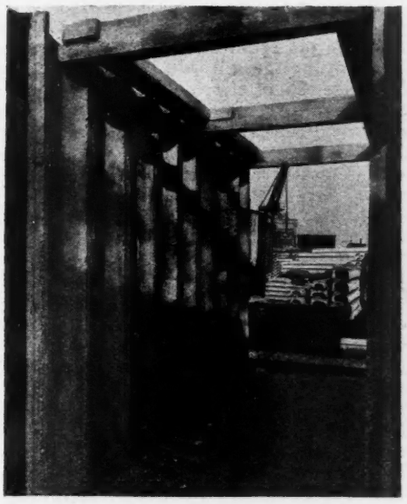
FIG. 1.—TRENCH SYSTEM AT ISLINGTON, USING PRECAST CONCRETE UNITS. (Trussed Concrete Steel Co.)

A.R.P. TRENCHES IN ISLINGTON

An interesting ceremony took place on January 24, at Islington Green, when Sir John Anderson formally handed over to the Mayor of Islington the first public trench shelters to be made permanent with concrete.

Four different methods of revetment were used, three involving the use of precast units and the fourth being an *in situ* method. The three firms responsible for the precast segment linings were Messrs. Stent Precast Concrete, Ltd. (Section 1), Messrs. Trussed Concrete Steel Co., Ltd. (Section 3), and Messrs. Trianco, Ltd. (Section 4). Messrs. John Mowlem and Co., Ltd., were responsible for the *in situ* section, which was carried out under the instructions of the Cement and Concrete Association. Illustrations of Sections 3 and 4 are given in these pages.

The Truscon System.—The "Truscon" precast trench construction method has been devised as a precast system of permanent lining to A.R.P. trenches for new conditions,



Above : FIG. 2. VIEW INSIDE TRENCH.
Right : FIG. 3. VIEW AT GROUND LEVEL.
(See preceding page.)

or to line trenches already excavated. The system consists simply of the precast trench units (4 in. thick x 15 in. wide x 7 ft. 6 in. long), which are used as vertical poling boards to the trench sides, butting each other to form a continuous wall. These units are strutted at the bottom of the trench by the 4 in. site concrete forming the floor, and at the top by a simple system of standard precast concrete struts and waling members. These struts are arranged at 5 ft. centres along the trench and fit loosely into a notch provided in every fourth unit. The strut member is 6 in. x 4 in., and the notch being 6 in. deep, the strut is flush with the top of the units. The strut members are notched as indicated on Fig. 1 to receive 7 in. x 3 in. precast concrete waling members, which retain the tops of the wall units in position. To allow for variations in the width of the trenches, or irregularities in digging—which are often found in existing trenches built under emergency conditions—a space is allowed on the top of the strut in which to pour a small

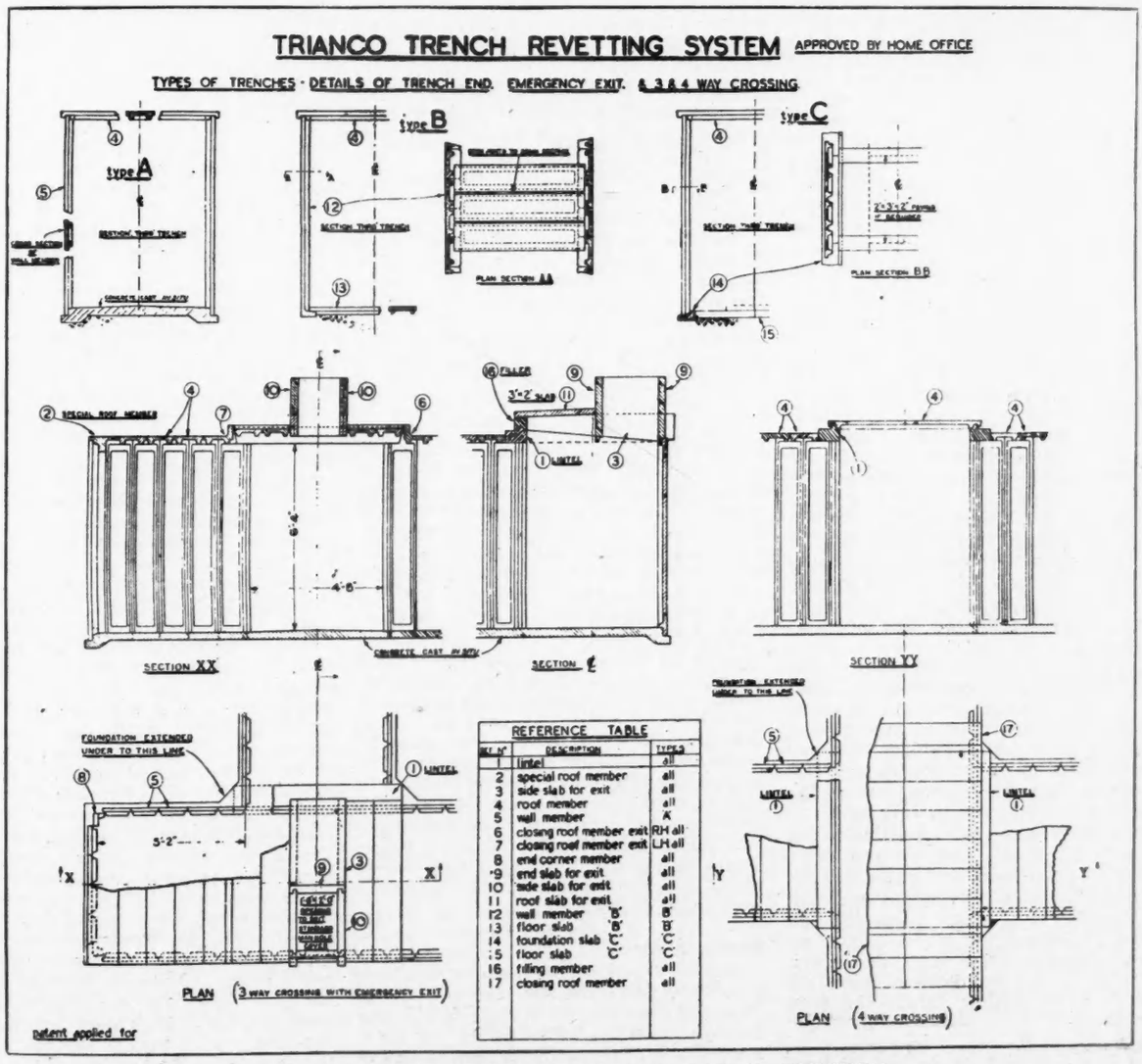


FIG. 4.—A SYSTEM OF TRENCH REVETTING USED AT ISLINGTON.

section of *in situ* concrete to close the gap, and so enable the waling boards to act in retaining the units against the earth sides. The same standard precast Truscon unit is also used as a roof to the trench, being laid direct on the tops of the wall units. The wall units are designed to withstand the maximum earth pressure possible on the sides, and the roof units a load of at least 3 ft. of earth or sandbags. The construction can be placed at any level in the ground, either entirely below normal ground level, or partly in the ground, so that excavated earth can be banked over the trenches to afford adequate cover. The trench is illustrated in Figs. 1, 2, and 3.

THE TRIANCO SYSTEM.—This system of trench revetting comprises a series of vertical side units cast with high frequency vibrated concrete, in a double tee-beam form, suitably reinforced in the ribs and capable of carrying the side pressure from the surrounding earth and the top thrust, due to the soil above the trenches. The top units are of a similar section and width, made in a like manner, but reinforced to carry a superimposed load of 400 lb. per sq. ft. Both top and side units are made in widths of 12 in. and the top unit is arranged to interlock with the upper end of the side units and is placed so as to bond over the two vertical members, *i.e.*, the centre of the top unit coincides with the joints between the side units. The floor unit in the case of the Islington trenches also bonds between two vertical members and rests on a cross rib arranged at the base of the side member. (See Fig. 4.)

This type of flooring permits of the passage of seepage between the soil and the underside of the floor unit into a suitable sump located at a convenient position in the trench. As an alternative to the suspended type of floor unit, *in situ* concrete can be provided, preferably laid with a camber, so that seepage would run to the sides of the trench and escape between the joints of the vertical members. The sealing of the joints between the top members against water penetration is carried out by the use of bitumastic strips. One of the outstanding features in this system is claimed to be the simplicity in erection.

This system of revetting can, in addition, be used for new trenches without the necessity of any timbering. Formal approval by the Home Office has been granted, and we understand that Trianco, Ltd., are now in production at their Hanworth works.

LONDON BUILDING BY-LAWS—XLIX

By ALFRED H. BARNES, F.R.I.B.A., and C. ROLAND WOODS, M.B.E., LL.B.

PART VIII.—MISCELLANEOUS (*continued*).

Roofs (*continued*).

THE requirements of By-law No. 147 (2) are new. They limit the extent of the aggregate area (measured in the plane of the roof) of all turrets, dormers, lantern lights, skylights and windows in or on or projecting from a roof, to half the area of the plane of the roof in which they occur.

Subject, however, to the provisions of Section 98 of the Act of 1930 (relative to the roof of a shop projecting beyond the main front of the building), roofs constructed entirely of incombustible material are exempt from this requirement as far as it relates to the area of glazing in a roof, provided that the glazing be carried out in "wired glass in hard metal frames." Under the conditions specified, this proviso permits of the familiar "north-light" roof where the whole plane of the roof on the one side is glazed, a form of roof which would otherwise be prohibited by the restriction of the skylight or window area contained in the first clause of By-law No. 147 (2).

The conditions of this relaxation call for some examination.

In the first place, in order that a roof may come within the requirements, it must be constructed "*entirely* of incombustible materials." This relates to both planes of the roof, and forbids the employment of timber, whether in rafters, purlins or trusses.

The term used with reference to the glazing is somewhat remarkable having regard to the requirements in respect of the materials "approved as fire-resisting for the glazing of —— lanterns and skylights" set forth in Regulation G33 (e) of the General Regulations of the Council*. This Regulation lays down requirements for wired glass relative to the thickness of the wire and size and shape of mesh, the thickness and quality of the glass and the area of the sheets employed. Had the by-law under consideration specified "*fire-resisting* wired glass," all the requirements of the Council's Regulation referred to would have been imported into the by-law. Since the term "fire-resisting" is not employed, however, it may reasonably be considered that that is not the intention of the by-law, but that the requirement of the by-law is merely that the glass must be wired—without any conditions as regards diameter or mesh of the wiring nor as to the thickness, quality or size of the sheets employed.

With regard to the expression "hard metal frames," it will be interesting to see what interpretation will be placed on the term "hard." There can be no doubt that steel would be accepted, and that lead would be rejected; but whether such metals and alloys as copper or bronze are to be admitted, or steel covered with lead or copper are to be included, remains to be seen. The by-law certainly precludes the use of reinforced concrete glazing bars and frames.

The first clause of By-law No. 147 (3) is copied word for word from Section 67 (2) of the London Building Act, 1930, and limits the pitch of a roof of a building of the warehouse class to 47 degrees, and of that of any other building to 75 degrees.

The second clause of paragraph (3) of this by-law is a proviso relative to the requirements as to the pitch of the warehouse roof, and is a new relaxation. Under this proviso the permissible pitch of the roof of a building of the warehouse class is increased to 75 degrees in the case of a slope descending on to an external wall next a street or next an open space, subject to the roof being constructed entirely of incombustible material. There is no requirement with regard to the extent of such "open space" from the building, nor that the space must be within the curtilage of the building. In the event of the proviso being invoked in respect of the slope of a roof next an open space in other ownership, a curious situation might arise should the other owner desire to erect a building which would bring the existing roof out of conformity with the by-laws.

Storeys in Roofs.

Section 68 (1) of the London Building Act, 1930, prohibited the construction of more than two storeys in the roof of "any domestic building." By-law No. 148 (1) is a repetition of the words of this Section of the Act except for the omission of the word "domestic," so that under the by-law, the old requirement is now extended to "any building."

Clause (2) of the by-law is a verbatim repetition of Section 68 (2) of the Act, and requires that where the upper surface of the floor of a storey in the roof of a domestic building is over 60 ft. above street level, the whole of such storey shall be constructed of fire-resisting materials throughout.

Height of Rooms.

The London Building Act, 1930, exercised control of height of habitable rooms only. The by-laws extend the control to offices.

By-law No. 141 (1) specifies the minimum height for any rooms used for an office or for habitation to be 8 ft. in the case of the topmost storey and 8 ft. 6 in. in any other storey. Section 75 (i) of the Act of 1930 required all habitable rooms to be 8 ft. 6 in. high except rooms wholly or partly in the roof—which could be 8 ft. The reasons for such control are presumably matters of hygiene, though it may be difficult to appreciate the need for differentiation between the first floor of a two-storeyed building and, say, the fourth floor of a five-storeyed building. However, there are, presumably, some well-established data in support of this nice distinction, otherwise the difference would have been discontinued in view of the difficulty which has arisen in the past, when it has been found that the addition of a storey to an existing domestic building would bring the building out of compliance with the building requirements in respect of the existing "topmost storey."

The proviso to this part of by-law No. 141 is, in the main, identical with the corresponding proviso to Section 75 of the Act, in that it makes a further relaxation where the room is wholly or partly in the roof by deeming the by-law to be complied with if the 8 ft. of height extend over only half the area of the room. The only difference between the wording in the by-laws and that of the corresponding Section of the Act is that the by-law requires the area of the room to be measured 3 ft. above the level of the floor (thus making no allowance for the floor area immediately under the rafter, where the room is entirely in the roof and the rafters ceiled down to the acute angle at the floor) while the old Act required the whole of the floor area to be taken into consideration.

It is to be noted that the by-law (like the Section of the Act) requires the height of a room to be measured from the floor to the ceiling throughout the room. This presupposes a ceiling extending throughout the room, for which there is no requirement in either the by-laws or the Act. Though a ceiling is customary in a living-room, it is by no means universal in the case of offices in workshops and warehouse buildings; and in dwelling-houses the ceilings are sometimes fixed to fillets between the joists or may even be formed by wall boarding interposed between the floor-boards and the joists. In such a case the by-laws would be satisfied, as regards the required height by being "measured from the floor to the ceiling," but there would still be the question of the measurement being so made "*throughout* every room." It must, therefore, remain for some decision to show whether an economy can legitimately be effected in the height of rooms by keeping the ceilings up above the bottoms of the joists.

(*To be continued.*)

* Regulations of the Council—No. 3.210; to be obtained from P. S. King and Son, Ltd., 14, Great Smith-street, Westminster, S.W.1. Price 2s. 6d.

SOCIETIES AND INSTITUTIONS

R.I.B.A.

Membership.

At a Council meeting of the Royal Institute of British Architects, held on Monday, January 9, the following members were elected :—

AS HON. CORRESPONDING MEMBER.

Frederico E. Mariscal (Mexico).

AS FELLOWS.

C. D. Andrews (London).
H. S. Braun, F.S.A. (London).
H. W. Burchett (London).
E. M. Fry, B.Arch. (Liverpool), (London).
O. D. Pearce (London).
D. Robertson (London).
D. D. S. Stokes (London).
A. Thorpe (London).
Lt.-Col. H. G. Wicks, M.C., T.D. (Birmingham).
Captain O. P. Bernard, O.B.E., M.C. (London).
W. E. Cross (Hounslow Middlesex).
H. Deane (London).
B. E. Dixon (London).
Colonel G. H. Gardner-McLean, O.B.E., T.D. (Glasgow).
Captain F. Henshaw (Andover).
H. E. Meredith (Bristol).
J. N. Parr (London).
M. W. Pike (Leicester).
A. Rome (Burton-on-Trent).
E. Sutcliffe (Manchester).

AS ASSOCIATES.

A. Arschavir (Sch. of Arch., Victoria Univ., Manchester), (Manchester).
Miss A. T. Bacon, B.A.Arch. (Bartlett Sch. of Arch., Univ. of London), (Wilmslow, Cheshire).
W. E. Barnes (Pitsea, Essex).
H. C. Beaumont (Newport, I.O.W.).
J. P. Bilimoria (Bartlett School of Arch., Univ. of London), (London).
C. H. M. Bompas (A.A.), (Pinner, Middlesex).
P. L. Cocke (A.A.), (London).
Miss B. Day (A.A.), (Gravesend, Kent).
D. Duncan (A.A.), (London).
R. R. Fairbairn (A.A.), (London).
A. B. B. Gavronsky (A.A.), (London).
Miss K. M. Greenwell (A.A.), (London).
D. C. Grubbe (Sch. of Arch., Univ. of Toronto), (London).
J. H. Hall-Kenney (London).
Miss C. M. H. Henderson (Glasgow Sch. of Arch.), (London).
J. C. de C. Henderson (A.A.), (St. Albans, Herts.).
J. G. D. Henderson, Dip. Arch. (Glas.), (Glasgow Sch. of Arch.), (Glasgow).
M. A. H. Hobbiss, B.A. (Cantab.), (Sch. of A., Cambridge Univ. and the A.A.), (Birmingham).
N. D. Hodgson, B.Arch. (Sch. of Arch., King's Coll. (Univ. of Durham), Newcastle - upon - Tyne), (Newcastle-on-Tyne).
G. S. Inglefield, M.A. (A.A.), (London).
D. T. Jenkins, Dip. Arch. (Cardiff), (Bangor, N. Wales).
R. F. N. Kan (Bartlett Sch. of Arch., Univ. of London), (London).
A. G. Ling (Bartlett Sch. of Arch., Univ. of London), (London).
S. P. Maycock (Sch. of Arch., The Polytechnic, Regent-street), (London).
A. J. G. McCulloch, Dip. Arch. (Lvrpl.), (Lvrpl. Sch. of Arch.), Lvrpl.).
G. A. G. Miller (Birm. Sch. of Arch.), (Wolverhampton).
D. Murray (Sch. of Arch., King's Coll. (Univ. of Durham), Newcastle-upon-Tyne), (Haswell, Co. Durham).
J. Okell (Sch. of Arch., Edin. Coll. of Art), (Edinburgh).
A. Reed, B.A. Arch. Hons. (Lond.), (Bartlett Sch. of Arch., Univ. of London), (London).
E. D. P. Salaman, B.A., A.A. Dip. (A.A.), (London).
P. Shiel, Dip. Arch. T.P. Cert. (Dunelm), (Sch. of Arch., King's Coll. (Univ. of Durham, Newcastle-upon-Tyne), (Newcastle-on-Tyne).
L. B. Starling (Sch. of Arch., King's Coll. (Univ. of Durham), Newcastle - upon - Tyne), (Newcastle-upon-Tyne).
F. L. Sturrock (A.A.), (London).
N. P. Thomas, Dip. Arch. (Cardiff), (Tech. Coll., Cardiff), (Cardiff).
G. M. Toplis (Sch. of Arch., Univ. of Lvrpl.), (London).
S. W. Tordoff, B.A. (Bartlett Sch. of Arch., Univ. of London), (London).
J. B. Willey, Dip. Arch. (Sch. of Arch., King's Coll. (Univ. of Durham), Newcastle - upon - Tyne), (Heddon - on - the - Wall, Northumberland).
C. E. D. Wooster (London).
A. B. Wylie, B.A. (Edin.), (Sch. of Arch., Edin. Coll. of Art), (Edinburgh).

AS LICENTIATES.

W. C. Johnston, M.C. (Carlisle).
A. Knewstubb (Penrith, Cumberland).
R. Mills (London).
B. F. Pennells (Worthing).
H. J. E. Pyne (London).
J. C. Shuttleworth (Halifax).
E. Whitmarsh - Everiss, P.A.S.I. (Leicester).
H. G. Wilding, P.A.S.I. (Portsmouth).

The Tite Prize and the Soane Medallion Competitions, 1939.

The attention of intending competitors is called to the fact that the Preliminary Competition for the Tite Prize will be held in London and at centres in the provinces on Wednesday, March 15. The closing date for the submission of forms of application is February 15.

In accordance with the new arrangements for the competition for the Soane Medallion, only one *en loge* competition will be held. This *en loge* competition will be held in London and at centres in the provinces on Tuesday, July 18. The closing date for the submission of forms of application is May 18. Forms of application for admission to the competitions may be obtained at the R.I.B.A., 66, Portland-place, London, W.1.

Examinations, November and December, 1938.

The questions set at the Intermediate, Final and Special Final Examinations held in November and December, 1938, have been published, and are on sale at the Royal Institute of British Architects, price 1s. (exclusive of postage).

Final and Special Final Examinations.

The R.I.B.A. Examination Board in India have arranged to hold the R.I.B.A. Final and Special Final Examinations in Bombay from April 14 to April 22. The last day for receiving applications, which should be sent to the Hon. Secretary of the R.I.B.A. Examination Board in India, "Gustad Chambers," Sir Pherozeshaw Mehta-road, Fort, Bombay, is March 14.

DUNDEE INSTITUTE OF ARCHITECTS.

Annual Dinner.

The annual dinner of the Dundee Institute of Architects was held recently at Draffen's Restaurant, Dundee. Mr. R. Matthew Mitchell, F.R.I.B.A., presided. Professor A. R. Fulton, proposing the toast of "The Royal Incorporation of Architects in Scotland," quoted the definition of architecture as frozen music, and added, "Some of the present-day examples might be described as congealed jazz."

A generation, he went on, had seen a revolutionary change in architecture, the value of which was difficult to appraise. But they must remember it had been largely due to a revolution in the materials at the command of the builder and a consequent broadening of technique. Education had, of necessity, to be revolutionised, and the way was harder for the ambitious architect who sought to enter the field of big works. The designing of columnless cinemas and theatres was one example which might tax the keenest brain. All that had imposed an additional strain upon the budding architect and added to the difficulties of obtaining suitable recruits.

In reply, Mr. J. F. Maclennan, F.R.I.B.A., P.R.I.A.S., referred to A.R.P. and said that the trenches which were being devised were being condemned as breeders of pneumonia. The light steel shelters were not supposed to be much use either. Whether that was right or not, he thought they must all pull together—architects, engineers and builders—to devise something better. The Government, he ventured to say, would be pleased to get better methods of protecting the people than those that had so far been devised.

The speaker continued by saying that it might be a difficult time for architects in some senses, but it was also fortunate in that there was work to do. Five years ago young architects whom he knew personally were selling boots and paint : now all were back to their profession. It was difficult to get a good assistant who was looking for work.

Proposing the toast of "The Dundee Institute of Architects," Mr. J. R. M'Kay, A.R.I.B.A., President of the Edinburgh Architectural Association, referred to the presence of lady architects, and said that he was glad to see the Institute was now big enough to include the fair sex at the dinner. On the subject of pupils, the speaker was convinced that, while the young fellows nowadays had ability, they were not inclined to take responsibility. In that respect he thought Dundee was well ahead of other cities, because they combined their practical and college training and that was something they could not do in other towns. He thought the Dundee section got men who were altogether more useful to the profession than the R.I.B.A. course men.

Responding, the Chairman criticised modern styles and said that if they went along the streets they were confronted with "appalling packing-cases" of buildings and "glorified glass cabinets." He would like to know whether the architect or the engineer was responsible for these atrocities.

Mr. Stewart Carmichael, the artist, replied to the toast of "Guests and Entertainers."

A vote of thanks to the Chairman was proposed by Mr. C. G. Soutar, F.R.I.B.A.

BOOK REVIEW

Sewers: Theory, Design, Specification and Construction. By E. V. Bevan and B. T. Rees. London : Chapman & Hall, Ltd. Price 25s. net.

The second edition of this enlarged book is by no means limited by its title, for it includes sewerage, storm-water drainage, pumping stations, outfall works, and the materials used in underground construction.

To architects and constructors who may require to know the discharge from pipes and sewers quickly, the book is useful, for after reviewing the well-known formulæ, two have been selected, worked out in detail, and plotted to logarithmic scales for gradients from 1 in 10 to 1 in 10,000, and for sizes of circular pipes from 6 in. to 120 in. in diameter, and also for ovoid sewers from 3 ft. by 2 ft. to 9 ft. by 6 ft.; consequently the comparative results check one another.

The subject of rainfall in its relation to drainage is dealt with, and the method of using the data obtainable from recording rain gauges during heavy local storms is explained in detail. A useful diagram built up from the records obtained at Birmingham, South Shields, Eastbourne and Swansea is plotted, from which it may be gathered that the maximum rainfall storms varied from about 1.50 to 2.50 in. in five minutes, 0.50 to 0.98 in. in 30 minutes, and 0.30 to 0.50 in. in one hour. Such information, and the means for obtaining reliable data as described, is of considerable use and may well be applied to such important matters as the sizes of down-pipes and drains to large buildings disfigured and damaged through lack of the application of such knowledge.

Turning to the subject of materials of construction, the importance of testing them at the site in the presence of the contractor is stressed. In general, the materials are described as complying with British Standard Specifications, allowances being made for particular work. It is surprising to read the statement that "unless initially clean the sand should be rejected, for washing will do little to improve it." In view of the great importance of the selection of sand for different classes of work, some indication of its shape and grading might well have been included. The test for absorption of bricks is rightly stressed for this class of work and might be adopted for those used in situations exposed to heavy rain. The mortar proportions of 2—1 and 1—1 may be considered by many to be too rich in cement and lead to shrinkage of the joints in pipes and brickwork.

Some interesting figures have been given of the weights of the materials used for concrete. A computation based on these figures and the principle described in an article in our issue of April 23, 1937,* indicates that the excess water above that required for maximum strengths varied from 25 per cent. to 55 per cent., according to the class of work, and agrees well with practice. The water/cement ratio would be from 58 to 91 per cent., and no criterion of the varied consistency desirable for these different concretes.

The enlarged volume of this work is a useful book of reference on sewerage in general, and contains much useful information.

* "Building Sands." By H. Gardiner Lloyd, A.C.G.I., M.Inst.C.E. M.Inst.Struct.E.

THE CONTRACTOR'S OBLIGATIONS AND LIABILITIES—XVII

By W. T. CRESWELL, K.C., Hon.A.R.I.B.A., A.S.I., etc., assisted by NORMAN P. GREIG, B.A., Barrister-at-Law.

THE CONTRACTOR AND THE SUB-CONTRACTOR.

THE following general principles should be quite clear in the mind of a contractor with regard to sub-contracting. Sub-contracting of any part of the contract works may be prohibited by the terms of the building or engineering contract; in such a case, sub-contracting without permission would be a breach of the contract, and an employer could refuse to allow the sub-contractor to enter on the works at all, though he could ratify, if he wished, the appointment of the sub-contractor. But the contractor would still remain liable to the employer under the terms of the contract.

But the contract may, and usually does, provide for sub-contracting; or again, the possibility of a portion of the contract works being given over to a sub-contractor may be fairly contemplated by the contract itself. In such cases the relationship between the contractor and sub-contractor (if any) with regard to the former's liabilities under the main contract must be carefully considered. It need only be mentioned that where a building or engineering contract is *assigned* to a contractor other than the original contractor, the former takes over all the obligations and liabilities of the latter under the contract.

Where any portion of the contract works is sublet to a sub-contractor, it can be laid down as a general principle that the main contractor remains liable to the employer for all defects and defaults in the sub-contractor's work in the same way and to the same extent as though he were actually performing the work himself. This principle has been upheld in so many cases as to be practically axiomatic; indeed, it follows logically from the contractual relations existing between the three parties. In the first place, there is privity of contract between employer and main contractor, and similarly between the main contractor and sub-contractor, but there need be none whatever between the employer and sub-contractor. See Hampton *v.* Glamorgan C.C. (1915) 113 L.T.112. One result of this is that where the contractor under the main contract has entered into a contract with a sub-contractor, the former is liable to pay the sub-contractor, unless he can show that he merely acted as agent for the employer, in which case, of course, there would be privity of contract between the employer and the sub-contractor. Apart from this, the relations between the main contractor and the sub-contractor are, in the main, similar to those existing between employer and contractor under the main contract, and it is implied in the sub-contract that the contractor will not hinder or delay the sub-contractor in performing the sub-contract works, and that if through any default of the main contractor the main contract is terminated, the sub-contractor has a claim in damages against the main contractor.

It is evident that where there are one or more sub-contracts in connection with a building or engineering contract, it is a matter of some concern to the main contractor that no delay in completion of the contract works shall be occasioned by delay in completion of the sub-contract works. Again, as has been pointed out, the main contractor is responsible to the employer under the main contract for defects in the sub-contract works. It therefore follows that, as far as is possible, the main contractor should endeavour to bring his sub-contractors within the terms of the main contract—in other words, he should arrange to bind the sub-contractor under the sub-contract in much the same way as he is himself bound to the employer under the main contract. Hence, for example, if he is under any obligation, enforced by a penalty, to complete by a certain time, then he should similarly bind the sub-contractor, and generally, in his sub-contract, bind the sub-contractor to indemnify him against those obligations which he has assumed under the main contract.

As is well known, there are available certain formal types of sub-contract for building works which are devised for this purpose. They assume, in the first place, that the sub-contractor is aware of the terms of the main contract, and provide that the supervision of the architect or agent of the employer named in the main contract is extended to the sub-contract works. In a word, the sub-contractor binds himself under the sub-contract to observe, perform and comply with the terms of the main contract *in so far as these apply and relate to the sub-contract works.* The sub-contractor, again, in such a form of sub-contract binds himself to pay to the contractor the value of defects or other faults in the sub-contract works for which the contractor has made himself liable to the employer under the main contract.

It is obvious that in building or engineering contracts of any magnitude it is expedient for all parties that some such form of sub-contract should be entered into between the contractor and sub-contractor; indeed, many main contracts provide that such shall in fact be done. It is not only to the advantage of employer and main contractor that this course be pursued, but the sub-contractor, by being brought within the purview of the main contract, derives a distinct advantage, inasmuch as such a contract may provide, in certain events, that the employer has power to pay the sub-contractor direct, on default of payment by the main contractor.

It should be clearly understood that where the sub-contract work is included in the main contract, not only will the contractor be held liable for defects in the sub-contract works, but he may find himself liable for that kind of damage which we are accustomed to call consequential. This liability would accrue if it could be shown to have been contemplated by the contract documents themselves. Put briefly, the contractor will be liable to the employer under the main contract for all those defects, defaults and delays for which he would have been liable under the main contract had he carried out all the work himself. The employer can therefore call upon the contractor to make good any damage resulting from the defective work of the sub-contractor.

There would seem to be an implied warranty in the contract itself that the work of the sub-contractor shall be fit for the purpose intended, and such an implied warranty has been held to be an absolute warranty of fitness. See G. H. Myers and Co. *v.* Brent Cross Service Co. (1933), 1 K.B.D. 46. It should be mentioned, however, that in a claim made by an employer against the contractor for consequential damage caused by the defective work of a sub-contractor, such damages must not be too remote, must be the natural consequences of the wrongful act, and must have been within the contemplation of the parties. See Hadley *v.* Baxendale (1854), 9 Ex. 341. In building and engineering contracts, the purpose for which the work is to be used is obviously known and therefore within the contemplation of the parties from the outset.

(To be continued.)

Building Sites, Moor Park, Herts.

Three building sites in South Approach, Moor Park, Herts, are to come under the hammer at the St. James's Estate Rooms, 6, Arlington-street, S.W.1, by Hampton & Sons, on Tuesday, February 21, failing a private buyer. The sites, which have a total frontage of about 1,693 feet, with all services available, are ready for immediate building operations and are freehold.

LAW REPORTS

BUILDERS' SUCCESSFUL CLAIM FOR BREACH OF CONTRACT FINANCED BY THE FRENCH GOVERNMENT. APPEAL.

The defendants in the action of Kirk and Kirk, Ltd. *v.* the Université de Lille have entered and set down an appeal from the judgment of his Honour S. R. C. Bosanquet, K.C., in favour of the plaintiffs, Messrs. Kirk and Kirk, builders and contractors, of Upper Richmond-road, London, S.W. (reported in *The Builder* of January 13).

Messrs. Kirk and Kirk brought the proceedings to recover damages from defendants for alleged breach of contract and for money due for work done in connection with the erection of a block of buildings in Queensbury-place, S.W., for the use of the Institute Française, for the sum of £96,000, the defendants being financed by the French Government.

The Official Referee, after a lengthy hearing, awarded the plaintiffs a total of £9,794 14s. 4d., and entered judgment for them for that amount with the costs of the action.

PLUMBER'S CLAIM FOR COMPENSATION AGAINST ELECTRIC POWER COMPANY.

KING'S BENCH DIVISION.

Before MR. JUSTICE LAWRENCE and a SPECIAL JURY.

Fowler v. Yorkshire Electric Power Co., Ltd.

This case came before Mr. Justice Lawrence in London for further consideration on the findings of the special jury at the trial at the Leeds Assizes.

The plaintiff, Mr. Robert William Fowler, a plumber, of 13, Garden-road, Ravensthorpe, Dewsbury, Yorks, brought the action against the Yorkshire Electric Power Co., Ltd., whose head office is at Leeds, to recover damages for serious personal injuries he sustained through the alleged negligence and/or breach of statutory duty by the defendants, their servants or agents.

It appeared that on October 28, 1936, Mr. Fowler was working for Messrs. Frank Newsome, Ltd., who were engaged in doing certain work at the defendant company's power station in Calder-road, Ravensthorpe, Dewsbury. Mr. Fowler, at the time in question, was employed in fitting fall-pipes at the power station and was struck by an electric travelling crane, the property of the defendants, sustaining severe personal injuries and resulting in the complete loss of his right hand and a broken nose, head injuries and shock. He alleged that these injuries were caused by the negligence of the defendants, their servants or agents, in failing to warn him of the danger, and in failing to warn the driver of the travelling crane of the work plaintiff was then doing and his presence at the *locus in quo*, and also in failing to stop the operation of the crane. Further, Mr. Fowler alleged that the defendants had failed to guard properly or fence the crane and the crane track and to take reasonable care to prevent damage to him, and in the circumstances had been guilty of breaches of statutory duty under Section 10 of the Factory and Workshops Act, 1901.

The defendants denied liability. They pleaded that in October, 1936, a company called Mitchell Engineering, Ltd., was employed by them to do certain work in the power station and they sub-contracted part of the work to Messrs. Frank Newsome, Ltd. (the employers of Mr. Fowler). Defendants denied that Mr. Fowler was on their premises at the time of the accident at their implied request or that they had been negligent. They said that in order to prevent injury to the workmen who might be employed in or about the premises from the use of the travelling crane, they had enforced certain safety regulations, which were communicated to Mitchell Engineering, Ltd., on September 10, 1936. Defendants also alternatively pleaded that the plaintiff's injuries were caused, or contributed to, by his own negligence, and they denied that they

had been guilty of any breach of the Building Regulations or that the plaintiff was entitled to any relief from them.

The jury, at the trial, found that a danger existed but that there was no negligence on the part of the defendants, and the question of law now argued was whether the defendants were responsible for the failure of Messrs. Frank Newsome, Ltd., to pass on the danger warning to their employee, the plaintiff.

After hearing arguments on this question from Mr. Percy Scott, K.C., for the plaintiff, and Mr. Philip Voss, K.C., for the defendants, his lordship said he would consider his judgment.

His lordship, in giving judgment, said he had come to the conclusion that the travelling crane and track was dangerous, and as it was not fenced the plaintiff was entitled to succeed against the defendant company because of their breach of duty on that ground. He, however, regretted the result, because he agreed with the jury's finding that Messrs. Newsome's negligence (for failing to pass on the danger warning to the plaintiff) was the real cause of the accident.

In the circumstances judgment was accordingly entered for the plaintiff, Mr. Fowler, for the damages assessed by the jury, viz., £1,250, against the defendants, the Yorkshire Electric Power Co., Ltd., with costs.

ROAD AND PAVING CHARGES HELD TO INCLUDE "DRIVE-IN" TO GARAGE SPACE.

COURT OF APPEAL.

Before LORDS JUSTICES SLESSER, CLAUSON and GODDARD.

Menon v. New Ideal Homesteads, Ltd.

In this case, New Ideal Homesteads, Ltd., estate developers, of Ideal House, Carlton-road, Erith, appealed from a judgment of Judge Hurst, sitting at the Dartford County Court, in favour of Mr. T. N. Menon, of Hurst-road, Sidcup, Kent, who sued the company to recover the sum of £3 which he had paid the local authority in respect of a "drive-in" which the authority had made into the garage space from the road.

It appeared that in 1932 Mr. Menon purchased from the defendants his house in Hurst-road, which was on the Montrose Park Estate, for £695, and he entered into possession in January, 1933. He alleged that he purchased on the representation that no road or legal charges were to be paid by him, and in these circumstances he claimed that he was entitled to recover that sum from the defendants.

Counsel for the appellants stated that the local authority in due course made up the road, and they put a "run-in" in the kerb, and for this they charged £3. Mr. Menon paid the amount and sued the company to recover it, and the County Court Judge found in his favour.

Counsel argued that the charge made was not one for which the company was responsible. There was a space for a garage, and he submitted that the local authority were not entitled to put the "run-in."

Without calling upon counsel for the respondent the Court dismissed the appeal with costs.

Lord Justice Slesser, in giving judgment, said the appellants undertook to pay all the paving and road and incidental charges. It was unarguable that this was one of the matters which the appellants had agreed to pay for as part of the price of the house and land. He was surprised that the appellants had contested the matter.

The other Lords Justices concurred.

Legal Aspects of Planning.

A lecture on "Some Legal Aspects of Town and Country Planning" was given on Wednesday, February 1, at the London School of Economics, Houghton-street, Aldwych, W.C.2, by Sir E. John Maude, K.B.E., C.B., Deputy Secretary to the Ministry of Health.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

We do not undertake to reply to inquiries concerning proprietary materials.—ED.

QUESTIONS.

Acceptance of Tender.

SIR,—Is there anything in law to prevent a higher tender than the lowest being accepted, and is the matter affected whether or not the words "the lowest or any tender will not necessarily be accepted" appear in the invitation to tender or on bills of quantities? CONTRACTOR.

[The following answer has been contributed by a correspondent: There have been several cases on the point raised. One of the most important in recent years was that of Willcocks and Barnes *v.* Paignton Co-operative Society, Ltd., in 1930. There is nothing in law to prevent a higher tender being accepted, and this rule is not affected whether the words "the lowest or any tender will not necessarily be accepted" appear in the invitation to tender or bills of quantities or not. Any tender received may be accepted. (See Creswell on the "Law Relating to Building Contracts," page 25.)]

Agreed Measurements: Request for Omissions.

SIR,—I shall be glad to have an opinion on the following:—

A builder's surveyor attends the site and measures up with sub-contractor's representative and agrees final figures, which are incorporated in the account. At a later date the builder suggests that although he agreed to certain figures, he finds that he must now make some omissions. Can he force the sub-contractor to omit items he suggests, or should the original measurements be allowed to stand?

There is no contract existing between the parties other than an order for the execution of the works, to be measured on completion. B.

[In reply to the above, a legal contributor writes as follows: This matter is not put clearly; but if, as appears, the question raised is in respect to a contract (for there must be a contract) between a general contractor and a sub-contractor, based on an order for the execution of the works to be measured on completion, then the answer to the question is that if, on completion of the works, the measurements *were in fact agreed* between the general contractor (or his representative) and the sub-contractor (or his representative), then the general contractor cannot, at this stage, "enforce the sub-contractor to omit items he suggests." The original measurements must stand, and the inquirer should resist any attempt to depart from them.]

Frost in Plaster.

SIR,—I was recently told of a building where the undercoat of the plastering in one wall of a room was completely frozen through during a sudden severe frost. The plasterer was undismayed and assured his employer that the final result would be exceptionally good. I am told that this proved to be the case, though I am not able to confirm the statement. I should be glad to know, however, whether this can have been correct, as it seems so contrary to generally accepted opinion, which is that freezing destroys the crystalline nature of plaster, when setting, and that this disintegration cannot be made good when the thaw comes. ARCHITECT.

ANSWERS.

Establishment Charges.

[ANSWER TO "READER," JANUARY 20.]

SIR,—Establishment charges are usually known as overhead charges. They include the clerical staff; general foreman and timekeeper; office expenses, such as rent, rates and taxes, insurance, telephone, fuel and lighting; motor cars for business; depreciation of plant. These charges may vary from 5 to 7½ per cent., according to the size and number of the jobs running. Workmen's compensation and third party insurance are generally separate items determined by the class of work to be executed, and added to costing separately. G. W. H.

Common Drains.

[ANSWERS TO "RATEPAYER," JANUARY 27.]

SIR,—The position in the past, established by Case Law, in respect to existing combined drainage cannot be said to be in force now—at any rate, in respect to the drainage of new buildings. For by section 37 of the Public Health Act, 1936, it is provided that each building must be drained separately; but by section 38 of that Act, if the local authority is of opinion that more than one building may be "drained more economically or advantageously in combination," it may require the buildings to be drained in combination by means of a private sewer.

The local authority fixes the proportion in which the expenses of constructing and of maintaining and repairing the private sewer are to be borne by the owners concerned.

It will be seen that the combined drain always remains a private sewer. It is not a public sewer, that is, a sewer maintainable and repairable by the inhabitants at large. LEX.

SIR,—I am inclined to think that the answer lies in the interpretation put upon the matter by the local authority. The position seems to be more clear than before in the Public Health (London) Act, 1936, under section 39, "Power of borough council to compel house owner to construct drains into sewer"; also, under section 44, "Power of borough council to construct or alter drains by agreement." The interpretation is clearly dealt with in clause 81, under sub-title "Drain," and its meaning; and "Sewer," and its meaning. G. W. H.

Electrical Tests.

[ANSWERS TO "SUPERVISION," JANUARY 27.]

SIR,—The simple method is by electric bell and battery, but of course it is most important to get continuity in barrel and wiring. This is all right when small portions of the installations are being done, but the entire installation must be properly tested by electrical instruments usually supplied by the electricity companies. The question of what is going to be buried and what it will be buried in is of considerable importance and should be tested with the utmost care. G. W. H.

SIR,—The resistance of a properly earthed system is of low value and should be tested at frequent intervals. All electricity companies have rules as to earthing which must be complied with, and these include any metal work which should be earthed. Testing is by means of an earth tester. The value of the resistance is shown on a scale which can be compared with that permissible. Electricity is generated in the instrument. W. E. W.

BUILDINGS ILLUSTRATED.

A.A. HEADQUARTERS, CROYDON.

Illustrated on page 249 are the Company Headquarters of the 30th (Surrey) Anti-Aircraft Battalion Royal Engineers, Territorial Army, Mitcham-road, Croydon. They have been planned by Messrs. J. Hatchard-Smith and Son, F.R.I.B.A. The general contractors were Messrs. Wilson Bros., of Lessingham-avenue, S.W.17. Sub-contractors were: Folding doors, O'Brien Thomas; curtain, Alfred Brookes Theatrical Supplies, Ltd.; metal cupboards, Art Metal Construction Co.; fireproof floor, Kleine Co.; woodblock floors, Hollis Bros.; heating, Fretwell Heating Co.; wiring for electric light, William J. Smith; ironmongery, Comyn Ching and Co.; ventilating system, Greenwood's Ventilating Co.; paint for decorations, Indestructible Paint Co.; distemper, Walpamur Co.; sand-faced bricks, Thomas Lawrence; cast stone, Empire Stone Co.; railings and gates, Wenham and Fowler; asphalt, Limmer and Trinidad Lake Asphalte Co.; doors, Eclair Door Co.; metal doors, George Wright (London), Ltd.; and bicycle stand, Alfred A. Odoni.

NOTES ON COSTING AND VALUATIONS OF BUILDING CONTRACTS

By F. I. O. B.

4.—THE CHECKING OF THE FINAL ACCOUNT.

THE final accounts, on receipt from the surveyor, should be dealt with in stages.

First, take the omission bill of the account and write on the original quantities the amount omitted. For example, if there were 50 rods 265 ft. reduced Fletton brickwork in original quantities, and the surveyor has omitted in various sections of the account 3 rods 25 ft., 1 rod 186 ft., 65 ft. super, 198 ft. super, book the omissions down in red ink on the original bills on the left of the item of 50 rods 265 ft., with a reference to the page and items of the account in which they occur. When all omissions of reduced Fletton brickwork have been found, add up, making a total of 5 rods 202 ft. super, and then deduct from the original 50 rods 265 ft., leaving 45 rods 63 ft. super. Then deal with the additions in the same way, putting them in black ink on the right side of the original figures of 50 rods 265 ft. Supposing that the additions amounted to 7 rods 86 ft., add this amount to the 45 rods 63 ft., making a total of 52 rods 149 ft., which will represent the total of reduced brickwork (Fletton) in the contract as finally carried out.

Deal in the same way with all the items in the variation account, including the P.C.s.

The result will be what may be called an adjusted bill of quantities. Once this has been done, go carefully through the adjusted bill and ascertain that nothing has been deducted twice, and that no more has been deducted from any one item than appeared in the original bill. It is surprising how often errors of this type will occur, especially when the number of variations is considerable. But with regard to the second possible error, one must watch for a variation on a variation. Supposing that there was 989 ft. super of 4½-in. Fletton wall in the original bill, and the total omissions came to 1,200 ft.; if there are additions it does not follow that too much has been deducted, for some of the omissions may be not from the original 989 ft., but from the addition added. Take a simple instance. The original quantity is, say, 989 ft., and omissions appear amounting to 1,004 ft. It does not follow that this is an error. One item of this omission may be, not of a 4½-in. wall shown on the contract drawings and not executed, but of a 4½-in. wall which is built as proposed, except that instead of having one doorway in it, it has four.

The surveyor will add the wall back in the first place amounting, say, to 310 ft., but when he comes to measuring the doors he will omit the brickwork on each doorway amounting to, say, 21 ft. each, 4=84 ft.

The final figures will then be as follows :—

Original quantities	989 ft.	
—		+
715 ft. red ink	—1,004 ft.	310 ft.
205 ft.	—15 ft.	
84 ft.	=310 ft.	
1.004 ft.	325 ft.	

It would appear at first sight as if more had been omitted than was taken, but only the first two items of omissions, the 715 ft. and the 205 ft.=915 ft., are omissions from the quantities. The item of 84 ft. is an omission from the additions; in other words, a variation on a variation.

We now take the material book and compare the items on it against the items booked in the original quantities or on the variation sheets.

For example, take the adjusted amount of Fletton brickwork of 52 rods, 149 ft., the figures at 4½M bricks to the rod should have required about 223M bricks. Then look this up in the material book and see how many bricks were delivered on the site, making due allowance for surplus bricks brought back to the contractor's yard or carted to another contract, and see if the number agrees with the adjusted bill.

Of course, if the brickwork is faced with other bricks, stocks or reds, an allowance must be made for these, and the numbers of such facing bricks also compared with the number in the material book. The same allowance would, of course, have been made in calculating the approximate number of Flettons required. Deal in this same way with every item in the material book, and make sure that each item is accounted for either in the bills or in the variation account. You will then be quite sure that nothing has been delivered or used on the site which has not been paid for.

If an excess is found of common material, such as sand, ballast or bricks, and no mistake can be found in adjusted bills, it will mean that there has been waste on the site, and the matter should be taken up with the foreman and the department responsible for ordering.

There are only two items which cannot be readily checked in this way, namely, joinery and spot items.

It is very difficult to trace joinery from the yard ticket book, from which it goes into the material book. It is commonly booked out as so many doors, so many frames, so many lengths of skirting, etc., without sizes or description of labour. Indeed, to book joinery out of the yard giving the same descriptions as in the bills of quantities would be far too expensive and would lead to transport congestion. In this case it is best to go through the adjusted quantities with the shop foreman by measurement.

The material book is not of much value for checking spot items. The labour is usually by far the greatest part of this, as much as 80 per cent., and the material is rarely of a distinctive nature, consisting mostly of bricks, cement, ¾-in. ballast or broken brick. It is best to check the spot items in the bill as the job proceeds, identifying each one on the work and noting whether it conforms to the description given. Spot items in variations are usually easily checked as the position of the work is given by the heading of the variations.

The next step is to go through the variation sheet and see that all have been included. In most cases the surveyor and the contractor or his representative have been through this before the variation account was started, and doubtful and inadmissible items have been cancelled.

Estimates, of course, should have been entered on the variation sheet and so are automatically checked with it.

The day-work sheets should here be checked; these, probably, have also been gone through before the account was commenced, and agreement reached as to which, if any, should be measured. Finally comes the checking of the prices in the variation account.

When all this has been done a list of queries should be made, with the money value of all claims brought to a total. At the head of this list should be noted the total of account as rendered by the surveyor, the contract amount, the amount of omissions and the amount of the additions. The contractor with these knows the minimum amount of the account and the total of his claims. As the settlement of any account is usually a matter of give and take, it is usually wise to assume that the contractor will not get more than 75 per cent. of what he asks, unless, of course, there are large and unquestionable mistakes.

It usually saves time to send a copy of the claim to the surveyor before meeting him, so that he may have an opportunity of going through it at his leisure and probably passing many items without question.

Perhaps a few remarks on the meeting with the surveyor may not be out of place.

Some estimators and contractors make a point of adopting a somewhat truculent attitude. This, in the writer's opinion, is a mistake. If a case is good, then it can best be presented quietly and with reason. A bellicose attitude is rather a confession of weakness and seems to show a lack of reliance on reason It is almost sure, moreover, to annoy the surveyor, who is usually anxious to hold the balance fairly between the contractor and the building owner. Deliberately biased surveyors do occasionally exist, but they are fortunately rare, and are usually associated with work of a speculative nature. Cases have been known in which they had a financial interest in the work, and are therefore anxious to get the cost as low as possible. When, in addition, the architect also has an interest in it, the contractor will find it a difficult job to get a fair settlement.

In such cases it may be necessary to take a firm line and even, if pressed too far, to threaten arbitration.

Contracts of this sort, however, are the exception. In the majority of cases the surveyor is anxious to reach a settlement as quickly as possible, and with fairness to all concerned, and will usually be found amenable to any reasonable argument.

It is unusual to make claims on quantities unless the omission is serious. It annoys the surveyor. Moreover he knows his own quantities far better than the contractor does, and knows, therefore, when they are full (no quantities can ever be absolutely correct). A claim on quantities will usually result in the surveyor producing a further list of omissions, and the contractor will find himself out of pocket on balance

It is useless, again, to make claims which are clearly inadmissible by the contract. If, for example, it is stated in the preamble to the plumber's bill that the prices for iron pipes are to include for all tees, bends, etc., it is useless to claim for these fittings at the settlement of the account. This appears obvious, yet such claims are frequently made. Claims on prices should be substantiated by a properly dissected and built-up price—so much for labour, so much for material, so much for waste, and so much for profit. If when the surveyor has stated that a price should be 5s. and the contractor says, "No, it ought to be 7s. 6d." without any particular reason, deadlock is likely to be reached, which is usually only solved by splitting the difference. This solution may be satisfactory some times, but in many cases when the surveyor has priced an item with which he is not familiar, his price may be so low that the bargaining process only gives the contractor loss.

This is particularly the danger with young surveyors without much experience, and the extent of a surveyor's practice is often determined not so much by his knowledge as by the influence of his connections.

5.—QUANTITIES NOT PART OF THE CONTRACT, OR NO QUANTITIES.

It is very rare to-day to find a contract in which the quantities are not part of the contract and it is best to avoid such contracts altogether. Quantities in such a case are rarely full; usually the opposite.

Contracts without quantities at all, however, are common usually for small amounts. They do occasionally, however, go to £5,000, or sometimes up to £10,000! A few attempts have been made in London since the war to negotiate large contracts even up to £100,000 without quantities, but such cases are very rare.

To what degree will the system given in these pages work?

The value of the monthly valuations will still hold good, so also will the variation sheet and the method of booking day-work. The material book, on the other hand, is not so valuable. It is still useful to keep it as a check on variations, and material included in day-work, but as a check on the contract quantities it is only useful in that if it shows error and loss results, it enables the loss to be apportioned to the proper quarters and not blamed on the foreman. A good foreman has often been got rid of because he did not make profit on a non-quantity

job which was a loss to start with owing to serious omissions in the estimate.

The account is usually made up by the contractor and settled direct with the architect.

It must be remembered, finally, that though proper systems and book-keeping help to consolidate profits, the only proper basis of profit in contracting is correct estimating. If the pricing is wrong, then no system will make a profit, though it may decrease losses. This is a fact which would appear to have been overlooked in recent years. With a system such as this, any ordinarily intelligent man with the necessary technical knowledge could learn to cost and value a contract in a couple of years. It takes 10 to 15 years to make an estimator, and even then he is still learning.

(*Concluded.*)

NEW BUILDINGS IN LONDON

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

BLACKHEATH. — ALTERATIONS. — And extensions are to be made to the drill-hall and headquarters, Holly Hedge House site, S.E.10, for the County of London Territorial Army and Air Force Association, Duke of York's Headquarters, Chelsea, S.W.3. The architect is Mr. Malcolm W. Matts, L.R.I.B.A., Staple House, Chancery-lane, W.C.2. The quantity surveyor is Mr. Thomas J. Moody, F.S.I., Staple House, Chancery-lane, W.C.

BRENTFORD. — FACTORY.—Messrs. R. B. Pullin and Co., Ltd., Great West-road, Brentford, are to acquire a site for a factory. The company's architects are Messrs. Tubbs, Duncan and Osburn, 16, Harpur-street, W.C.1. Cost, about £50,000.

CHISWICK. — PUBLIC-HOUSE.—The Royal Brewery, Brentford, Ltd., Park-street, Southwark, S.E.1, proposes to erect new premises in Bennett-street to replace the existing "Lifeguardsman" public-house. The plans have been prepared by Messrs. Nowell Parr and Son, 97, Old Brompton-road, South Kensington, S.W. No contracts placed.

CLERKENWELL. — REBUILDING.—Of the "Horseshoe and Magpie" public-house, Topham-street, E.C.1, is proposed by Messrs. Watney, Combe, Reid and Co., Ltd., Stag Brewery, S.W.1. The plans have been prepared under the direction of the brewery architect, Mr. A. W. Blomfield, F.R.I.B.A.

COVENT GARDEN. — ALTERATIONS. — Messrs. Alfred and Vincent Burr, F.R.I.B.A., and F.I.A.A., 85, Gower-street, W.C.1, are the architects for alterations to the "Nag's Head" public-house, in James-street and Floral-street, W.C.2, for Messrs. Whitbread and Co., Ltd., Chiswell-street, E.C.1. The contract has been placed with Messrs. Haymills (Contractors), Ltd., Hanger Green, W.5.

CROYDON. — SHELTER, ETC.—The T.C. has approved a £350,000 scheme for the building of an underground car park in the centre of the town, which can also be used as an air raid shelter for 30,000 people.

DEPTFORD. — ADDITIONS.—Mr. Melville Seth Ward, 15, Portman-street, W.1, is the architect for additions at the premises of Messrs. J. Stone and Co., Ltd., in Arklow-road. The building contract has been placed with Messrs. Geo. Parker and Son, Ltd., 124, Sumner-road, Peckham, S.E.

EAST BARNET.—SCHOOL.—The Herts C.C. have given notice to the local council of their intention to provide a new public elementary school for about 400 junior and infant children at Church Hill-road.

EDGWARE. — SCHOOL.—The Hendon T.C. are inviting tenders for a school at Broadfields-avenue, Edgware, to accommodate 440 scholars. The quantity surveyor is Mr. E. E. Richardson, 35, John-street, W.C.1.

EPSOM.—FLATS.—The Bunting Construction Co., Ltd., 49, Baker-street, W.1, are proposing the erection of 204 flats on land forming an extension of White Horse-drive.

FOOTS CRAY.—PREMISES.—A plan from Messrs. T. W. Croft and Co., Ltd., Swiss Cottage, Stansted-road, S.E.23, of licensed premises at the junction of Sidcup by-pass and Sevenoaks-way, Foots Cray, has been approved.

HACKNEY.—ALTERATIONS.—And extensions are to be made to the works premises, Urswick-road, E.9, for Messrs. Edward C. Barlow and Sons, Ltd. The plans have been prepared by Mr. S. N. Cooke, F.R.I.B.A., Sun-buildings, Bennett's-hill, Birmingham.

HAMMERSMITH.—ADDITIONS.—H.M.O.W. has placed a contract with Messrs. Higgs and Hill, Ltd., 143, Queen Victoria-street, E.C.4, for alterations and additions to the branch post-office in the Broadway, W.6.

HAMPSTEAD. — TOWN HALL.—The Town Hall Committee has recommended the Council to accept scheme "C" submitted by Messrs. Slater, Moberly and Uren, 46, Berners-street, W.1, for the new town hall buildings. The scheme is for retaining the 1911 portion of the building in its present form and for demolishing the remaining portion of the town hall building, comprising the original vestry hall built in 1877, and the extension, and for constructing on the site rendered vacant a six-storey building, including basement, providing modern administrative and council accommodation. The cost is estimated at £53,000.

HAMPSTEAD.—BATHS.—The B.C. has received a report submitted by Mr. K. M. B. Cross, F.R.I.B.A., 46, New Bond-street, W.1, regarding new central baths in Finchley-road, at £175,142. The scheme also makes provision for an assembly hall at an additional cost of £62,510.

HAMPSTEAD.—ALTERATIONS.—The Building Department of Messrs. Courage and Co., Ltd., are carrying out alterations at "The Stag" public-house in Fleet-road. Mr. F. M. Kirby, F.R.I.B.A., is the company's architect.

HARLESDEN. — EXTENSIONS.—The H. J. Heinz Co., Ltd., have under consideration extensions to their food factory. Plans have been prepared by Mr. Harold Goslett, F.R.I.B.A., 28, Theobalds-road, W.C.1.

HAROLD WOOD.—ESTATE.—Mr. F. Heath has applied to the Hornchurch U.D.C. for permission to develop an estate off Colchester-road.

HAROLD WOOD. — ESTATE.—Plans have been prepared by Messrs. Rowe and Robson, Station-lane, Hornchurch, for the development, for residential purposes, of a large estate off Church-road. No contracts placed.

HATTON GARDEN. — OFFICES.—Messrs. James Stewart and Sons (Tottenham), Ltd., 174, West Green-lane, Tottenham, N., are the contractors for a four-storey block of offices at Nos. 36-37, Greville-street, E.C.1. The plans have been prepared by Mr. Frederick W. Charity, L.R.I.B.A., 51A, Lincoln's Inn-fields, W.C.2.

HAYES.—SHOPS.—On a site in Kingshill-avenue, Hayes, on the Frogmore Park estate, the Kingshill Shop Properties, Ltd., 15, Stratton-street, Mayfair, W.1, are having erected from plans by Mr. Donald Hamilton, 17-19, Stratford-place, W.1, two parades of shops comprising 26 shops and 32 flats. Messrs. Walker (Tooting), Ltd., Cadnam House, Beddington-lane, Croydon, are the contractors.

HESTON. — SHOPS.—Messrs. Marshall and Tweedy, FF.R.I.B.A., 96, New Cavendish-street, W.1, are the architects for four shops with living accommodation in Central-parade, Heston-road, and the building contract has been placed with Messrs. Henry Kent (Builders), Ltd., 51, Beacon-road, Hither Green, S.E.

HORNCHURCH. — PREMISES. — Mr. R. Ward, 33, St. George's-road, S.W.1, is the architect on behalf of Mr. G. R. Valli for a licensed house and restaurant, intended to be known as "Crossways," on land adjoining the Southend Arterial-road at Great Warley. No contracts placed.

HORNCHURCH. — BUNGALOWS. — The U.D.C. has passed plans for Messrs. Smith and Tidder for 36 bungalows in Ferguson-avenue, Gidea Park.

ICKENHAM.—SHOPS.—The Midland Shop Properties, Ltd., 80, Grosvenor-street, W.1, has acquired a site in Swakeleys-road, for five shops with flats over. The architects are Messrs. Hillier, Parker, May and Rowden, 27, Maddox-street, W.1. No contracts let.

ILFORD. — SHOPS.—Plans have been prepared by Messrs. Knight and Co., 14, Cromwell-place, South Kensington, S.W.7, for a parade of 13 shops, with flats above, in Cranbrook-road. No contracts placed.

ISLINGTON. — GARAGE.—The Lion Service Stations, Ltd., 219-227, Caledonian-road, N.W., proposes to build a garage in Caledonian-road and Twyford-street, N.1. Plans have been prepared by Mr. S. Stern, A.R.I.B.A., 3-5, Oxford-street, W.1, and the contractors are Messrs. G. Godson and Sons, Ltd., Pembroke-works, Kilburn-lane, N.W.6.

KINGSTON.—ALTERATIONS.—And additions are to be made to the showrooms, Fife-road, of Messrs. Mackney's, Ltd. The contractors are Messrs. W. H. Gaze and Sons, Ltd., High-street, Kingston. The architect is Mr. J. W. Spink, F.R.I.B.A., 20, London-road, Kingston.

LONDON. — BUILDING.—The L.C.C. has accepted the tenders of Messrs. G. Godson and Sons, Ltd., Kilburn-lane, W.10, at £8.300 for extensions and improvements at the Paddington technical institute, and Messrs. British Projects, Ltd., 8-10, Lower James-street, W.1, for workshops and messrooms, etc., at the Northern outfall works, at £6,216. 86 dwellings are to be erected on the Commerell-street area, Greenwich, by Messrs. W. H. Gaze and Sons, Ltd., High-street, Kingston, at £49,483. Messrs. Howes and Jackman, 10, Gray's Inn-square, W.C.1, are the architects. Messrs. W. H. Gaze and Sons, Ltd., at £13,583 are to erect block 6 at South Lambeth estate. £9,400 to be spent on the erection of a building on the Northwold estate, Hackney, for use as a maternity and child welfare centre.

MITCHAM.—CLINIC.—The T.C. are inviting tenders for a child welfare centre and clinic at Church-road.

MORTIMER-STREET. — ALTERATIONS. — Are to be made to the showrooms, etc., at No. 45, of Messrs. Bloom and Sinject. The contractors are Messrs. G. H. Willis and Sons, 193, Auckland-hill, West Norwood, S.E.27. The architects are Messrs. Moore and Hunter, 1, Newman-street, W.1.

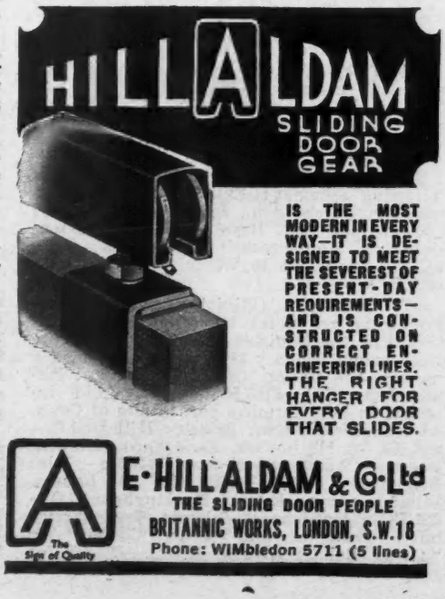
NEW MALDEN. — EXTENSIONS. — Messrs. Reid and Sigrist, Ltd., aeronautical engineers, are to considerably extend their factory at Shannon's Corner, Kingston by-pass-road. Plans by Messrs. Adie, Button and Partners, 30, St. George-street, Hanover-square, W.1.

PARK ROYAL.—EXTENSIONS.—Including a large boiler-house, etc., are to be made to the Goods Depot, Old Oak Common-lane, N.W.10, for the G.W.R. The company's chief architect is Mr. P. Emerson Culverhouse, F.R.I.B.A., Paddington-street, W.2.

SHEPHERD'S BUSH. — DRILL-HALL.—The tender of Messrs. Thomas and Edge, Ltd., 25, Green's End, Woolwich, S.E.19, has been accepted by the City of London Territorial Army and Air Force Association, Finsbury Barracks, City-road, E.C., for the erection of a large drill-hall and anti-aircraft headquarters in Wood-lane, W.12.

SOUTHWARK. — REBUILDING. — Messrs. Truman, Hanbury, Buxton and Co., Ltd., Spitalfields Brewery, E.1, proposed to rebuild their "Prince Regent" public-house, Dawes-street, S.E. Plans have been prepared by the company's architect, Mr. A. E. Sewell, L.R.I.B.A., 91, Brick-lane, E.1. No contracts placed.

STREATHAM.—EXTENSIONS.—Plans have been sanctioned for extension to the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premises of Messrs. Woolworth at 148-154, Streatham High-road.

SYDENHAM.—FLATS.—Messrs. W. Johnson and Co., 6, Hanover-street, W.1, are the surveyors for 24 flats and 3 lock-up garages on the site in Kangley Bridge-road. Work is for the Moncrieff Properties, Ltd., 83, London-road, Morden. Work will commence shortly.

TOTTENHAM. — EXTENSIONS. — Messrs. Dailley and Co., Ltd., of Garman-road, are to extend their factory. Plans have been approved by the T.C.

TOTTENHAM.—FLATS.—Mr. F. Ferrier Tomlin, 195, High-road, N.22, is the architect for two blocks of flats at 101 and 103, Philip-lane.

TOTTENHAM. — FACTORY. — Plans have been approved for Messrs. Wilson, Warden and Co., Ltd., 28, Pear Tree-street, E.C.1, for a factory on the north side of Vale-road.

TOTTENHAM.—GARAGE.—The Hale Garage Coach Co., Ltd., Broad-lane, N.17, is to build a large garage and stores in Ferry-lane, for which a contract has been placed with Messrs. James Stewart and Sons (Tottenham), Ltd., 175, West Green-road, Tottenham, N. The plans have been prepared by Mr. Cecil J. Brewin, L.R.I.B.A., 49b, The Drive, Walthamstow, E.17.

TOTTENHAM.—EXTENSIONS.—To branch premises, Bruce-grove, N., are proposed by Messrs. Marks and Spencer, Ltd., Baker-street, W.1. The contractors are Messrs. Bovis, Ltd., 1, Stanhope-gate, W.1. The architect is Mr. A. E. Batzer, F.R.I.B.A., 36, Ebury-street, S.W.1.

TOTTENHAM. — SHOPS. — The T.C. has approved plans for Mrs. R. A. Smith for four shops at 290-294, High-road.

TOTTENHAM.—HOUSES.—The tender of Messrs. W. F. Marshall, Ltd., 71, Stradbroke-grove, Buckhurst Hill, at £17,770, has been recommended for acceptance now for 36 houses on the Scotland-green estate.

TOTTENHAM. — CHURCH. — The London Diocesan Fund, 33, Bedford-square, W.C.1, are having a new church, to be known as St. John the Baptist, erected in Great Cambridge-road. The architect is Mr. Paul Paget, of Messrs. Seely and Paget, 41, Cloth Fair, E.C.1, and the reinforced concrete engineers are Messrs. Trussed Concrete Steel Co., Ltd., Westminster, S.W.1. The building contractors are Messrs. T. H. Kingerlee and Sons, Ltd., of Oxford.

UPMINSTER. — SHOPS. — The Varley Estates, Ltd., 130, Mount-street, W.1, are to erect 15 shops and 15 maisonettes in Corbets Tey-road. The plans have been prepared by the company's own architectural department. No contracts yet placed.

WANDSWORTH. — EXTENSIONS.— Messrs. Benham and Sons, Ltd., 66, Wigmore-street, W.1, propose to extend their factory premises over the River Wandle. Plans by Messrs. Searle and Searle, Paternoster House, Paternoster-row, E.C.4. No contracts placed.

WANDSWORTH.—HOUSING.—The Housing Committee of the B.C. approved a proposal to erect on the site of Sadlers-buildings area, Putney, a two-storey building comprising 14 bed-sitting-room flats and tenders be obtained and Messrs. Henry Riley and Son, chartered quantity surveyors, be appointed to prepare the bills of quantities. The plans are by Mr. G. L. Elkington, F.R.I.B.A., 7, Laurence Pountney Hill, E.C.4. The Committee has also approved that Mr. Basil Hughes, F.R.I.B.A., prepare a housing scheme for the West Hill-road site, and Cubitts Cottages area, and Mr. Harold Baily, F.R.I.B.A., for the Saxby-street area.

WOOD GREEN. — GARAGE. — Mr. Gerald Shenstone, 34, Hart-street, W.C.1, is the architect for a garage for motor-coaches at rear of 725, Lordship-lane and 1, 3 and 5, Redvers-road, for the City Coaches Co., Ltd. Tenders are now being invited.

WOOD GREEN. — FLATS.—The T.C. has received an application by Mr. A. Whitaker, F.I.A.A., architect, 16, Fords-grove, N.21, on behalf of Messrs. Mattock Bros., builders, 35, Winkfield-road, Wood Green, N.22, for permission to erect flats on the vacant site between 70 and 78, Winkfield-road.

WOOD GREEN.—ADDITIONS.—The T.C. has resolved that the tenders of Messrs. Thos. Bates and Son., Ltd., River-road, Barking, amounting to £3,675 8s. 11d. for alterations and additions at Noel Park school, and £12,690 for alterations and additions at Lordship-lane school, be accepted. The plans are by the Borough Engineer and Surveyor.

FIVE-YEAR PLAN

BARNSLEY. — Last month the T.C. adopted a five-year plan of capital expenditure amounting to £1,000,000. They have now been asked to consider additional schemes estimated to cost another £224,000. The Watch Committee suggest new police buildings to cost £100,000, with a police court, and a £50,000 fire station; and the Parks, Cemeteries and Allotments Committee have proposals amounting to £27,000.

DEPTFORD.—Total expenditure involved in the B.C.'s five-year programme of prospective capital works is £221,422. Among main items are highways (£105,622), additional accommodation at town hall (£23,000), provision of sunlight and chronic rheumatism clinic (£10,000), erection of swimming bath, with gymnasium—adaptable as first-aid post (£45,000), and air raid precautions (£31,000).

EAST HAM.—The C.B.C. has prepared a programme of capital expenditure amounting to £824,180, divided as follows: public health, £110,000; parks, £2,500; Works Committee, £165,750; cleansing, sewage works and baths, £217,430; education, £300,000; public assistance, £20,000; office accommodation, £8,500.

RICHMOND (YORKS).—The R.C.'s plan includes schemes of water and sewerage improvements, £15,700; house building schemes, £35,000.

SOUTHWICK (Sussex).—The U.D.C.'s five-year plan has been approved. Schemes include: Gymnasium and open-air bathing pool, £7,000; storm water sewerage scheme extension, £6,000; new fire station, £1,500; new town hall, £15,000; 12 houses, £6,000; new road, £4,000.

STOWMARKET.—A programme involving an estimated expenditure of £106,100 has been prepared by the U.D.C. The estimates are made up as follows: Purchase and equipment of Council offices, £2,100; sewerage and sewage disposal, £50,000; mechanical refuse collecting vehicle, £500; public conveniences, £600; laying out of new cemetery, £400; water main extensions, £1,000; housing of the working classes, £50,000; proportion of cost of extensions to isolation hospital, £1,500.

STRETFORD.—The T.C. has been recommended to include in the five-year programme a scheme for the erection of a public swimming bath at Lostock, at an estimated cost of £12,000. Alterations and reorganisation at the Old Trafford Baths are estimated to cost £7,000.

SURREY C.C.—Surrey County Council had placed before it this week a five-year programme of works involving an estimated capital expenditure of £9,500,000. The chief heads of estimated expenditure are: Hospitals, £2,567,000; mental hospitals, £1,104,000; highways, £1,466,000; elementary education, £2,101,000; higher education, £1,221,000.

TOTTENHAM. — Corporation's five-year plan has been reduced to £1,329,766, instead of £1,457,526. The scheme includes the provision of new town hall, estimated cost £150,000.

WARWICKSHIRE.—A £3,500,000 building plan for Warwickshire during the next five years is envisaged by the County Architect, Mr. A. C. Bunch, F.R.I.B.A.

WHITBY.—U.D.C.'s five-year plan is estimated to cost about £225,000.

PUBLIC WORKS

BRIGHTON.—The T.C. has approved the following schemes: Extensions to Balfour-road Sen. Girls' Sch., £6,400; extensions to Coombe-road Sen. Boys' Sch., £950; extensions to Moulsecoomb Sen. Girls' Sch., £1,500; extensions to Whitehawk Sen. Sch., £2,550.

GT. BRITAIN (Ministry of Health).—Following are notes on some loans sanctioned by the Minister of Health during the week ended January 21: Acton B.C.—£46,950 for new fire station, Gunnersbury-lane; Birmingham C.C.—£163,664 for freehold interests in land forming part of site of Council House extension; Brierley Hill U.D.C.—£48,260 for 148 houses, Tack Farm, Blewitt-street, Church-street and Belle Isle; Brighouse B.C.—£34,820 for 96 houses, Lillands-avenue Estate; Buckingham C.C.—£28,662 for purchase of lands, Iver, Wraysbury, Ivinghoe and Aston Clinton for "Green Belt"; Harrow U.D.C.—£25,629 for 38,526 acres of land at Rayners-lane for housing purposes; Havant and Waterloo U.D.C.—£10,223 for works of sewerage and sewage disposal; Kent C.C.—£53,900 for the purchase of land for widening High-street, Sevenoaks; Lancaster C.C.—£100,000 for road improvement schemes; £39,832 for public elementary school and caretaker's cottage, Turton; Leeds C.B.C.—£228,173 for 366 flats, Sweet-street, and construction of road and sewer works; Middlesex C.C.—£78,600 for Senior Council School and caretaker's house, Roe Green, Kingsbury; Penybont R.D.C.—£37,890 for 98 houses at Pyle and Sarn, together with construction of road works; Reigate B.C.—£22,500 for works of sewerage and sewage disposal; Willenhall U.D.C.—£60,305 for 176 houses, Portobello site.

GREAT BRITAIN. — Among contracts advertised in this issue by local authorities as being open to tender are: Borough of Widnes.—Proposed Fairfield sen. boys' sch.; Petworth R.D.C.—32 cottages, roads and sewers, Hampers Green Estate; Borough of Scunthorpe and Lincoln C.C.—Municipal buildings, courts and police buildings and site works; Staffordshire C.C.—Enlargement of coun. sch., Cheddleton, nr. Leek; Borough of Rowley Regis.—100 houses at Bell End and 14 houses, Station-road; County Borough of Eastbourne.—Extensions and alterations to nurses' home, St. Mary's Institution; Durham C.C.—Additions to Usworth Colliery Intermediate C. sch., additions and alterations to Tanfield Lea C. sch.; Norfolk C.C.—School at Cromer; Borough of Beckenham.—Sports pavilion, Coney Hall recreation ground, W. Wickham; Tredegar U.D.C.—36 houses; City of Leicester E.C.—Infants' sch., Bendbow Rise (Braunstone Estate); City of Manchester.—Bus garage, Wythenshawe.

JARROW-ON-TYNE.—Board of Education has approved E.C.'s plans for primary school at Simonside and tenders will be invited shortly; Borough Engineer (J. Scott Weir) prepared amended plans for £32,000 swimming baths, including gymnasium, for submission to the National Fitness Council; T.C. propose 1,730 houses at £674,000; plans by Borough Engineer for the erection of 50 houses in the Central Ward (Nos. 1 and 2 cleared areas) approved.

NEW CINEMA

NEWBURY.—Amended plans have been approved for the erection of a cinema in Park-way for which the builders are Messrs. Berney and Marks, Ltd., 10, Lower James-street, W.1.

NEW COMMERCIAL VEHICLES

Models for Building Contractors.

AFTER a period of 18 years the Austin Motor Company has re-entered the commercial vehicle field with a range of 30-cwt., 2-ton and 3-ton models at competitive prices.

Many of the vehicles will be of interest to building contractors for the conveyance of builder's plant and materials. Worthy of particular mention in this connection are the "tipper" models, facilitating the speedy and safe unloading of sand, demolition rubble, etc. The "tipping" apparatus may consist of hand-operated screw gear or hand-operated hydraulic gear, the latter type being slightly more expensive.

All the models are powered by a six-cylindered over-head valve engine developing 70 b.h.p. at 2,800 r.p.m., and their specification indicates a straightforward and substantial design, due allowance being made for comfort without unnecessary fittings in the driving cab.

Extensive production facilities are being prepared at the Longbridge Works for this new Austin enterprise, an expenditure of over £500,000 being involved. Buildings covering a floor area of 168,000 square feet have been erected. The adjacent machine shops are in a new three-storey building, providing over 35,000 square feet of floor area, and, in addition, a new commercial vehicle service building is being equipped to handle the new products. It has also been found necessary to extend the power station, stamp shop and foundry.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. The dates at the head of paragraphs are those for the submission of tenders: a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations: (A.) for A.R.I.B.A.; B. of E. for Board of Education; B.C. for Borough Council; B.E. for Borough Engineer; B.S. for Borough Surveyor; C. for Clerk; C.B. for County Borough; C.C. for County Council; C.E. for County Engineer; C.S. for County Surveyor; D.S. for District Surveyor; E. for Engineer; E.C. for Education Committee; (F.) for F.R.I.B.A.; (L.) for L.R.I.B.A.; M.W.B. for Metropolitan Water Board; M.H. for Ministry of Health; M.T. for Ministry of Transport; P.C. for Parish Council; R.D.C. for Rural District Council; S. for Surveyor; T.C. for Town Clerk and Town Council; and U.D.C. for Urban District Council.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, &c.

FEBRUARY 4.

†**Thingoe R.D.C.**—67 houses. Hunt & Coates, architects, 51a, Abbeygate-st., Bury St. Edmunds. Dep. £2 2s.

FEBRUARY 6.

†**Middlesex C.C.**—Workshop and storeroom fittings, Technical Institute, The Burroughs, Hendon, N.W.4. County Architect, 20, Vauxhall Bridge-rd., S.W.1. Dep. £2 2s.

†**Scottish Industrial Estates, Ltd.**—Buildings on the industrial estate at Hillington. Wylie, Shanks & Wylie, architects, 204, West Regent-st., Glasgow, C.2. Dep. £5.

FEBRUARY 7.

✱**Dorset C.C.**—Metal casements to police station, Poole. County Architect, Dorchester.

✱**Enfield U.D.C.**—Permanent lining of A.R.P. Trenches. E. and S., 7, Little Park-gdns. Dep. £2 2s.

†**Newcastle-under-Lyme E.C.** — Junior mixed council school, clinic and caretaker's accommodation, off Higherland and Priory-rd. Arthur Cotton, Architect to E.C., Nelson-pl. Dep. £3.

†**Somerset C.C.**—Schools, Williton, Portishead and Backwell. R. O. Harris, County Architect, Park-st., Taunton. Dep. £5 5s.

FEBRUARY 8.

†**East Riding C.C.**—Casual wards at Gilberdike. County Architect, Beverley. Dep. £1 1s.

Fylde Water Board.—Pump house at Westby reservoir, nr. Kirkham. E., Sefton-st., Blackpool.

Harrow U.D.C.—16 flats, Clifton-rd., Little Stanmore. S. Dep. £3 3s.

✱**Kent C.C.**—Combined health centre at Lodge-cres., Orpington. W. H. Robinson (F.), Springfield. Dep. £2 2s.

✱**Kent C.C.**—Nurses' home, etc.; engineering services and electrical installation at County Hospital, Farnborough. W. H. Robinson (F.), Springfield. Dep. £5 5s., £2 2s. and £2 2s. respectively.

Lexden and Winstree R.D.C.—10 houses, Boxted. Baker & Burton, chartered architects, 3, Church-st., Colchester.

Liverpool T.C.—64 flats for aged persons on Sparrow Hall estate. T.C. Dep. £1 1s.

Perth and Kinross C.C.—Additions and alterations to Kinross public school. A. Watt Allison, architect, County Offices, Perth.

Portlaoighise District Mental Hospital.—Residence for clerk, hospital grounds, adjoining Dublin-rd. P. J. Sheahan, M.R.I.A.I., 47, O'Connell-st., Limerick. Dep. £10 10s.

Raunds U.D.C.—Installation of electricity in 50 occupied houses in Marshalls-rd., Cartrill-st. and Spinney-st. G. Whittam, S. Dep. £2.

Salford T.C.—Pulling down of existing buildings on proposed public baths site, Great Clowes-st., Broughton. City E.

South Westmorland R.D.C.—20 houses at Haverflatts-ln., Milnthorpe, and for construction of road 72 yds. long and sewers. S. Dep. £2 2s.

Sunderland T.C.—Joiners' shop and paint shop at Cherry Knowle Hospital, Ryhope (formerly Ryhope Mental Hospital). Wm. & T. R. Milburn (FF.), 17, Fawcett-st. Dep. £2 2s.

Sunderland T.C.—Reinforced concrete water tower and brick pump house at Cherry Knowle Hospital, Ryhope. B.E. Dep. £2 2s.

Wells R.D.C.—Reconstruction of house in Godney. Harold N. Alves, architect, 27, High-st., Glastonbury. Dep. £1 1s.

Winchester R.D.C.—Six non-parlour type houses and construction of approximately 300 yd. of 6 in. sewer at Pound-la., Old Netley, in parish of Hound. Edwd. G. Breed, M.Inst.R.A., 45, Romsey-rd., Winchester. Dep. £2 2s.

York T.C.—Wooden fencing over length of approx. 115 yds., together with other incidental works on land adjoining River Foss behind "Heworth Croft." C. J. Minter, City E. Dep. £1 1s.

FEBRUARY 9.

Banbury T.C.—Low-pressure hot-water system of heating at covered playground at infants' department of Dashwood council school, Britannia-rd. E. O. Reid, T.C.

✱**Bristol T.C.**—Lifts, terrazzo work and flush doors. City Architect, Eagle House.

Cheltenham R.D.C.—22 houses. E. H. Rosser, Building Surveyor, 14, Imperial-sq. Dep. £2 2s.

Croydon C.B.—Renovations, etc., at Mansion, Norwood Grove Recreation Ground. B.E. Dep. £1 1s.

Dublin.—Building works and supplies, for Commissioners of Public Works. Geo. P. Fagan, secretary, Dublin. Dep. £1.

Manchester T.C.—18 houses at Parkside-rd., Wilbraham-rd. estate, Fallowfield. Housing Dept. Dep. £2 2s.

Newbury R.D.C.—Public convenience in The Broadway, Thatcham. E. G. Hampshire, S., Phœnix House, Newbury.

Ossett T.C.—28 2-bedroom and 2 3-bedroom type houses; 24 2-bedroom type houses, and 13 bungalows and 3 2-bedroom type houses on Swithenbank site. B.S.

Ramsbottom U.D.C.—Public conveniences, Edenfield. A. Plunkett, S.

Reading C.B.—Brick-built pavilion comprising three dressing-rooms at Whitley Wood recreation ground, Basingstoke-rd. B.S. Dep. £1 1s.

Southgate B.C.—Pair of gardeners' cottages at isolation hospital, Tottenhall-rd., N.13. B.E. and S., Palmers Green. Dep. £2.

Southwell R.D.C. — Houses: 4 at Bilsthorpe, 6 at Ollerton, and 4 at Rolleston. S., 8, Westgate. Dep. £1 1s. each.

York T.C.—Senior school in Clifton. Secretary. Dep. £2 2s.

FEBRUARY 10.

Barrow-in-Furness C.B.—174 houses on Greengate-st. South site. B.E. and S. Dep. £2 2s.

Berkhamsted U.D.C.—Splinterproof shelter (underground) in allotments, Butts Meadow. S.

Coulsdon and Purley U.D.C.—Internal decoration works, Council housing schemes. S. Dep. £1 1s.

✱**Dunstable T.C.**—Repairs and decorations to 135 houses on Northfields housing estate. T.C. Dep. £2 2s.

Feltham U.D.C.—Eight lock-up garages on Central Feltham estate. E. and S. Dep. £1.

Hull T.C.—Lavatory accommodation for female visitors at the Tuberculosis Sanatorium, Cottingham. City Architect. Dep. £1 1s.

Preston C.B.—Bowls pavilion at Moor Park. B.E. and S.

Reigate T.C.—Two detached houses, Monson-rd., Redhill. G. Sanderson, B.E. Dep. £1.

Rothbury R.D.C.—Whittingham, 5 houses and site works, and Longframlington, 9 houses and site works. Hetherington & Wilson, chartered architects, 27, Bondgate Without, Alnwick.

Rushall, Shelfield and Walsall Wood Nursing Association.—External painting of nurses' home, 20a, Lichfield-rd., Walsall Wood. R. C. Baker, 38, Vicarage-rd., Brownhills.

Stockon-on-Tees T.C.—Meter-testing station at Henzell-st. B.E. Dep. £1 1s.

Stourbridge T.C.—Exterior repairs, painting and decorating of 449 houses. G. N. Maynard, B.E. and S.

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✱**Warwick C.C.**—Bilton-rd. senior girls' school and Hillmorton Paddox S. school. A. C. Bunch, County Architect, Warwick. Dep. £2 2s. each.

FEBRUARY 11.

Ampthill R.D.C.—Conversion of existing storeroom into bathroom and other alterations at administration block, Isolation Hospital, Steppingley. Colin B. Sharp (A.), 4, The Avenue, Flitwick, Bedford. Dep. £1 1s.

Coulsdon and Purley U.D.C.—Chain link fencing and chestnut pale fencing at Coulsdon Court Golf Course, Coulsdon-rd., Coulsdon. E. and S.

County Galway V.E.C.—Vocational school at St. Brigid's-rd., Portumna, County Galway, and at workhouse grounds, Gort, County Galway. George Lee, C.S., Prospect-hill, Galway. Dep. £5 5s.

Donegal District Mental Hospital.—Low-pressure hot-water heating installation, etc. P. J. Courtney, resident medical superintendent. Dep. £10.

Durham C.C.—Rebuilding Holywood Hall Sanatorium, Wolsingham. C.E., 20, Old Elvet. Dep. £3 3s.

Faringdon R.D.C.—13 non-parlour houses. K. M. Hart, S. Dep. £2 2s.

Glusburn Council School.—Pointing of boundary walls and portions of school building at school. E. B. Nelson, Education Office, Bingley.

Gosport T.C.—Erection of public convenience, Elson recreation ground. B.E.

✱**Hertfordshire C.C.**—Maternity and child welfare centre, Hatfield. C.

Huddersfield C.B.—Works in connection with extensions to technical college, Queen-st. South. B.E. and S. Dep. £2 2s. each.

✱**Kent E.C.**—Painting and repair works. W. H. Robinson (F.), Springfield.

Liskeard.—House at Culverland, for Stanley Maggs. H. R. Venning (L.), chartered architect, Midland Bank-chambs.

Pocklington R.D.C.—24 houses. J. M. Murdie, architect. Dep. £1.

Stretford T.C.—Public library in King-st. Percy Howard (A.), 88, Mosley-st., Manchester 2. Dep. £1 1s.

West Bridgford U.D.C.—20 houses at Ruddington-la., South Wilford. H. Carmichael, E. and S. Dep. £2 2s.

West Riding C.C.—Pointing of offices, Wath Victoria council school; repair of asphalt, girls' and infants' playground, Wath Park-rd. council school. C. Ellison, Divisional C., Rock House, Swinton, Mexborough.

FEBRUARY 13.

Basford R.D.C.—Alteration and additions to 3 public conveniences in Selsdon parish, and internal and external painting and decorating of Rock House, together with external painting of outbuildings, cottages, etc., at Stockhill-ln., Basford. J. J. Ellis, E., S. and Housing Architect. Dep. £1 1s.

Belfast.—Low-pressure hot water heating installation at new P.E. school at Carrickmastay, near Warrenpoint, for Ven. Archdeacon McAlister, Adm. T. McLean, M.Inst.R.A., architect and civil engineer, 41 and 42, Ocean-bldgs., Donegall-sq. East, Belfast. Dep. £2 2s.

Billinge-and-Winstanley U.D.C.—Painting and decorating inside of 60 houses at Holt-av. and Rainford-rd. S.

✱**Ealing T.C.**—Temporary classrooms, etc., at Coston School, Greenford. B.E. Dep. £1 1s.

Evesham R.D.C.—14 houses at Broadway, 12 at Bretforton, 8 at Hinton-on-the-Green, 2 at Harvington, 4 at Church Honeybourne, 4 at Bull Ring, South Littleton. R. J. Atkinson, surveyor and architect. Dep. £2 2s.

Frome R.D.C.—4 houses at Norton St. Philip and 8 houses at Beckington. J. F. Rogers, registered architect, Radstock. Dep. £1 1s.

Fulham B.C.—92 dwellings, Fulham-rd. B.S. Dep. £2.

Keighley Corporation.—36 houses, Guard House estate No. 2. E. G. Felgate (A.), Borough Architect, Gas Offices, Cook-la.

Leeds T.C.—Houses on various sites. R. A. H. Livett (A.), Housing Director, 26, Gt. George-st. Dep. £2 each contract.

Leeds T.C.—External painting of dwellings on various estates. R. A. H. Livett (A.), Housing Director, 26, Great George-st. Charge 5s.

Llantrisant and Llantwit Fardre R.D.C.—Stores at Tynybryn, Tonyrefail. T. Saunders, E. and S. Dep. £2 2s.

Llantrisant and Llantwit Fardre R.D.C.—14 semi-detached houses. T. Saunders, E. and S. Dep. £2 2s.

London (H.M.O.W.).—Limpsfield Chart Telephone Exchange. Room 71, Ground Floor, Office of Works, S.W.1. Dep. £1.

Lothingland R.D.C.—Pumping station, concrete water tower, cast-iron mains, etc. A. P. I. Cotterell & Son, engineers, 54, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

Montgomery C.C.—Alterations and extensions to County Offices, Severn-rd., Welshpool. County Architect, Welshpool. Dep. £2 2s.

Newcastle-upon-Tyne T.C.—Sanitary fittings for new maternity units at general hospital. City Architect, 18, Cloth-market.

✱**Norfolk C.C.**—School at Cromer. Secretary. Dep. £5 5s.

Nuneaton T.C.—Public convenience in Ansley-rd., Stockingford. R. C. Moon, B.S. Dep. £1 1s.

Oldbury T.C.—Conveniences and conversion of cookery centre into nursery room at Titford-rd. school. B.S.

Sandy U.D.C.—28 houses and ancillary works, South-rd. and Queens-rd. S. Dep. £2 2s.

Stockport C.B.—Demolition of old and erection of female mental wards, Shaw Heath institution. Pierce & Son, 30, St. Petersgate. Dep. £2 2s.

Wallasey C.B.—Iron railings and gates to Hoylake-rd., Moreton. B.S.

Warrington C.B.—2 houses and shops on Orford housing estate, and external painting of 412 houses. J. Y. Hughes, B.E. and S. Deps. £2 2s. and 10s. respectively.

Washington U.D.C.—100 houses near Well Bank-rd. L. T. Broome, architect, Council-chams. Dep. £3 3s.

West Riding C.C.—Aston Fence council school, renewal of floors, etc.; Catcliffe council school, building and joinery repairs; Dinnington council (infants') school, renewal of wood block flooring; Laughton council school, improvements to offices, etc.; Bradfield Loxley council school, storage accommodation for fuel. C., Wakefield.

Winchester T.C.—Alterations and additions to engineer's residence, sewage pumping station, Garnier-rd. City Engineer's Dept. Dep. 10s. 6d.

FEBRUARY 14.

Basford R.D.C.—Small pumping station and lime house, Giltbrook. Elliott & Brown, chartered civil engineers, Burton-bldgs., Parliament-st., Nottingham. Dep. £3 3s.

***Beckenham T.C.**—Sports pavilion at Coney Hall recreation ground, W. Wickham. B.E. Dep. £2.

Bexley T.C.—Iron fencing for open spaces. B.E. Dep. £1 1s.

Brentford and Chiswick T.C.—Boundary wall at St. James' Church, Gunnersbury. B.E. and S. Dep. £2 2s.

Cannock R.D.C.—6 small bungalows off Blackhalve-ln., Essington. S. R. Biggs, S. Dep. £2 2s.

Dalmuir (H.M.O.W.).—Adaptations to the post office submarine cable depot. H.M. Office of Works, 20, Renfrew-st., Glasgow. Dep. £1.

Denton U.D.C.—Electric lighting installations to 204 houses on Taylor-la., Victoria-st. and Acre-st., Town-la. and Acre-st., St. Anne's and Haughton Green housing estates. E. and S.

Dundee T.C.—Various works at Carolina Port generating station. D. H. Bishop, Dudhope Crescent-rd.

Hinckley U.D.C.—22 houses on Belle Vue estate, Earl Shilton. J. S. Featherston, E. and S. Dep. £2 2s.

Horley.—7 small houses. Towndrow & Ransom, chartered architects, 14, Bloomsbury-way, W.C.1. Dep. £1 1s.

London (H.M.O.W.).—Otley Post Office and Telephone Exchange. Room 71, Ground Floor, Office of Works, S.W.1. Dep. £1.

Pontardawe R.D.C.—21 houses at Trebanos, 29 houses at Clydach. E. D. Jones (F.), Council Architect. Dep. £2 in each case.

Rochdale T.C.—Internal painting at town hall. B.S.

Southport C.B.—Painting structures on foreshore, the pier and at Ainsdale Lido. B.E. Dep. £1 1s.

Stafford T.C.—Infant welfare centre in North Walls. B.E. Dep. £2 2s.

***Staffordshire C.C.**—Enlargement of council school at Cheddleton, near Leek. F. A. Hughes. Dep. £3 3s.

Strood R.D.C.—Fire station and mortuary at Hoo, and fire station at Halling. W. J. Stimpson, architect, Council Offices.

West Midlands Joint Electricity Authority.—Suspended floor and extensions to existing suspended platform at Wolverhampton power station, together with certain ancillary works. H. F. Carpenter, Clerk and Manager, Phœnix-bldgs., Dudley-rd., Wolverhampton. Dep. £1 1s.

***Weymouth and Melcombe Regis T.C.**—Public conveniences at Alexandra-gdns. T.C. Dep. £2 2s.

FEBRUARY 15.

Atherstone P.C.—Swimming pool and other works. John H. Haiste, chartered civil engineer, Middleton-chambs., Lowgate, Hull. Dep. £2 2s.

***Bungay U.D.C.**—70 houses, Beccles-rd. site. F. J. Ingram, 18a, Earsham-st. Dep. £3 3s.

Lexden and Winstree R.D.C.—11 houses in parish of Marks Tey. Baker & Burton, chartered architects, 3, Church-st., Colchester. Dep. £1 1s.

***Rowley Regis T.C.**—100 houses at Bell End and 14 houses at Station-rd. T.C., Municipal-bldgs., Old Hill, Staffs. Dep. £2 2s.

FEBRUARY 16.

Blackpool (H.M.O.W.).—Extension of Cleveleys telephone exchange. Room 71, Ground Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Essex C.C.—Convalescent hospital, Pyrgo-pk., Romford. C., Chelmsford. Dep. £10 10s.

Hemel Hempstead T.C.—Interior decorative repairs to 26 council houses, Wood-ln. and Woodcres. B.E.

***Leeds T.C.**—Works in connection with redevelopment of Marsh-la. area. R. A. H. Livett (A.), Housing Director, 26, Great George-st. Dep. £2 each.

Moulton (H.M.O.W.).—Telephone exchange. Room 71, Ground Floor, H.M.O.W., London, S.W.1. Dep. £1.

FEBRUARY 17.

Calverley Joint Hospital Board.—New floors in ward 1 of hospital at Thornbury, near Bradford. Wm. Roberts Wilson, solicitor, 12, Park-sq., Leeds, 1.

Chester C.C.—Alterations and additions at Sale Springfield-rd. C. school. F. Anstead Browne (F.). Dep. £2 2s.

Chester C.C.—Gymnasia at Ellesmere Port the Grange council senior school, and same at Port John-st. council senior school. F. Anstead Browne (F.), County Architect, The Castle, Chester. Dep. £2 2s.

Darwen T.C.—Gymnasium, dressing-rooms, etc., at Springbank School, Ross-st. B.E. Dep. £2 2s.

Halifax C.B.—Steelwork for turbine house, crane. G. A. Vowles, Borough Electrical Engineer and Manager, 19-23, Northgate. Dep. £1 1s.

Liverpool (H.M.O.W.).—Alterations, etc., to wood disinfecting station. H.M.O.W., 13-15, Seel-st., Liverpool. Dep. £1.

FEBRUARY 18.

Bury C.B.—Works in connection with erection of Town Hall, Manchester-rd. Jackson & Edmonds, architects, 24, Bennetts-hill, Birmingham. Dep. £1.

Edmonton T.C.—Structural steelwork for central depot at Montagu-rd. E. J. Willis, B.E. and S. Dep. £2 2s.

***Kent E.C.**—School buildings, etc. C. Architect, Springfield, Maidstone.

FEBRUARY 20.

***Carlisle T.C.**—Heating and ventilating work in connection with new police and fire stations. City E., 18, Fisher-st.

Cowbridge R.D.C.—84 houses, housing site adjoining Baron's-close, Llantwit Major, also roads and sewers. Edward Loveluck (A.), 12, Dunraven-pl., Bridgend. Dep. £3 3s.

***Derby C.B.**—Alterations and new nursery unit, Traffic-st. school. C. H. Aslin (F.).

Hendon B.C.—School in Broadfields-av., Edgware. E. E. Richardson, 35, John-st., W.C.1. Dep. £4 4s.

***London (H.M.O.W.).**—Tonbridge telephone exchange. Room 71, Ground Floor, Office of Works, S.W.1. Dep. £1.

***Manchester T.C.**—Garage at Wythenshawe. City Architect. Dep. £1 1s.

Meriden R.D.C.—Six pairs of semi-detached bungalows at Arley. H. Pickering, E. and S. Dep. £2 2s.

***Scunthorpe T.C.**—Public abattoir in Diversion-rd. B.E. and S. Dep. £2.

Stoke Newington B.C.—Community building on Lordship-ter. housing estate. T.C. Dep. £2 2s.

Todmorden T.C.—102 houses of various types at Carr House and Castle housing estate. F. Tunnell, B.S. Dep. £2.

***Weymouth T.C.**—70 houses and 48 flats. B.E. and S., 6, Pulteney-bldgs. Dep. £2 2s.

Weymouth and Melcombe Regis T.C.—15 houses and 6 flats consisting of one block of 4-bedroom parlour type houses, 3 blocks of 3-bedroom non-parlour type houses, and one block of 3 2-bedroom non-parlour type houses, 2 blocks of 2-bedroom non-parlour type and one block of 6 flats. B.E. and S., 6, Pulteney-bldgs. Dep. £1 1s.

FEBRUARY 21.

Brentford and Chiswick T.C.—Masonry boundary wall at St. James's Church, Gunnersbury, Chiswick. L. A. Cooper, B.E. and S. Dep. £2 2s.

Cumberland C.C.—Bath and lavatory accommodation, etc., at Wigton public institution. J. H. Haughan (A.), County Architect, 4, Alfred-st. North, Carlisle. Dep. £1.

Falkirk T.C.—74 houses, Cobblebrae site—2nd development. B.E.

***London (H.M.O.W.).**—Stockland (Devon) Telephone Repeater Station; West Ayton (Scarborough) Telephone Exchange. Room 71, Ground Floor, Office of Works, S.W.1. Dep. £1 each.

Manchester T.C.—90 residential flats at West Gorton. Chairman of the Housing Committee. Dep. £2 2s.

***Mitcham T.C.**—Child Welfare and Clinic, Church-rd. B.E. and S.

Perth C.C.—Block of 2 houses on the Braco-Comrie-rd.

Sherborne U.D.C.—24 dwellings at Horsecastles. T. W. Sharpe (L.), architect. Dep. £5.

***Widnes T.C.**—Senior boys' school, Peel House-la. B.E. and S., 28, Widnes-rd. Dep. £2 2s.

FEBRUARY 22.

***Eastbourne C.B.**—Extensions and alterations to nurses' home at St. Mary's Institution. B.E. Dep. £2 2s.

***London (H.M.O.W.).**—Andover Down Telephone Repeater Station (Hants); Extension to Lancaster Telephone Repeater Station. Room 71, Ground Floor, Office of Works, S.W.1. Dep. £1 each.

Wayland R.D.C.—117 houses, together with service roads, paths, fences and drains. Stanley J. Wearing (F.), 3, Redwell-st., Norwich. Dep. £1 1s.

FEBRUARY 23.

***London (H.M.O.W.).**—Extensions, etc., to East Dulwich Sub-Post Office. Room 71, Ground Floor, Office of Works, S.W.1. Dep. £1.

Penybont R.D.C.—Additional offices at Coity-rd., Bridgend. J. Simon Davies, S. Dep. £2 2s.

FEBRUARY 24.

***Essex C.C.**—Additions and alterations to C. Senior School, Upminster-rd., Rainham. J. Stuart (F.), Chelmsford.

***London (H.M.O.W.).**—Brentwood Post Office; Mogador (Kingswood, Surrey) Telephone Exchange. Room 71, Ground Floor, Office of Works, S.W.1. Dep. £1 each.

FEBRUARY 25.

Tewkesbury T.C.—15 cottages, Oldbury-gdns. site. A. M. Sharp, B.S. Dep. £2 2s.

***Tredegar U.D.C.**—36 houses. S. Dep. £3.

Walsall T.C.—96 3-bedroom, 11 4-bedroom and 8 5-bedroom, total 115 houses, on the Coalpool housing site; and Goscote site, 2 houses and shops combined, for T.C. M. E. Habershon, B.E. Dep. £3 3s.

FEBRUARY 27.

Bourne U.D.C.—Alterations, etc., at Corn Exchange. T. F. Trower, chartered architect, Elsom House, Broad-st., Spalding. Dep. £2 2s.

Killarney.—Installation of an electric lighting and power system in Mental Hospital, Killarney. T. H. M. Wain, consulting engineer, 15, Cook-st., Cork. Dep. £10 10s.

Lancashire C.C.—(*a*) Metal windows and lantern lights, (*b*) asphalting at the junior and infants' school, Farington. J. C. Prestwich & Sons, architects, Bradshawgate-chambs., Leigh. Dep. £2 in each case.

FEBRUARY 28.

***Durham C.C.**—Additions to Usworth Colliery intermediate school and Tanfield Lea council school F. Willey (F.), 34, Old Elvet.

***Leicester T.C.**—Infants' school, Bendbow-rise. Director of Education. Dep. £2 2s.

Sunderland R.D.C.—2 public conveniences and shelters at Ryhope, and 1 at Tunstall. E. Hitchen, S.

MARCH 1.

***Finsbury B.C.**—Adapting premises in Helmet-row, Old-st., for use as works and highways depot. B.E. and S., Rosebery-av., E.C.1.

MARCH 4.

***Middlesex C.C.** — Building and engineering works. C., Guildhall, Westminster, S.W.1.

MARCH 6.

Nottingham T.C.—Tuberculosis hospital at Newstead. R. M. Finch, City E. and S. Dep. £5.

***Petworth R.D.C.**—32 cottages on Hampers Green estate and/or roads and sewers. F. J. Hodgson (L.), 201, High-st., Guildford. Dep. £1 1s.

***Scunthorpe T.C.**—Municipal buildings, courts and police buildings and site works. T.C. Dep. £5 5s.

MARCH 7.

***West Riding of Yorkshire C.C.**—Various trades in connection with Colony for Mental Defectives at Campsall, nr. Askern. Architect, Wakefield.

MARCH 8.

***Willesden E.C.**—Alterations and additions to Wesley-rd. C. School. F. Wayman Brown, Dyne-rd., Kilburn. Dep. £5 5s.

NO DATE.

Leeds T.C.—House and other works at Manor-rd. depot, Holbeck. Kirk & Tomlinson, architects, 63, Albion-st.

***London County Council.**—Building works, etc. Architect (A.4), County Hall, Westminster Bridge, S.E.1.

Plymouth T.C.—Building, etc., at 22, Portland-sq., demolition of existing property and erection of 30 flats at Newport-st., Stonehouse, and public convenience at Morice-sq., Devonport. City Architect, Guildhall.

MATERIALS, &c.

The materials for which tenders are invited normally include one or several of the following :—asphalt, bricks, brooms, building lime, cast-iron pipes, cement, concrete, kerbs, etc., concrete tubes, drain pipes, glazed stoneware pipes, granite chippings, granite kerbs, gravel gulleys, lime, manhole covers, painters' materials, plumbers materials, road stone, slates, stoneware pipes, sand, stone, tar, tarslag and bityninous macadam, timber, and whinstone screenings. Readers should obtain full particulars by personal inquiry.

FEBRUARY 8.

Andover T.C.—B.S.
Battersea B.C.—H. F. J. Thompson, 204, Lavender Hill, S.W.11.
Burnley C.B.—B.E. and S.
Folkestone T.C.—E. L. Allman, B.E.
Keighley T.C.—R. Courtenay Gibson, B.E. and S.
Macclesfield T.C.—E. Hamson, B.S.
Padiham U.D.C.—W. R. C. Houston, Acting Surveyor and Water Engineer.
West Bridgford U.D.C.—H. Carmichael, E. and S.

FEBRUARY 9.

Benfleet U.D.C.—E. and S.
Birmingham T.C.—H. J. Manzoni, City E. and S.
Chertsey U.D.C.—W. V. Davies, E. and S.
Erith T.C.—B.E. and S.
Holywell U.D.C.—D. L. Morgans, B.Sc., surveyor and architect.
Liverpool T.C.—City E. and S.
Luton T.C.—J. W. Tomlinson, B.E. and S.
Penge U.D.C.—S.
Preston C.B.—B.E. and S.
Sunderland C.B.—B.E.
Uxbridge U.D.C.—E. E. T. Bolton, E. and S.
Wakefield T.C.—L. Ives, City S.

FEBRUARY 10.

Filey U.D.C.—E. Dunbavand, S.
Poole R.D.C.—S.
Gwyrfai R.D.C.—D. H. Roberts, S., 22, Castle-sq., Caernarvon.
Leeds Transport Dept.—W. Vane Morland, Chief E.
Northumberland C.C.—A. Cheyne, C.S., Newcastle-upon-Tyne.
Skegness U.D.C.—R. H. Jenkins, E. and S.

FEBRUARY 11.

Burnley R.D.C.—F. Hewitt, S.
Cambridge T.C.—B.E. and S.
Crompton U.D.C.—F. T. Jones, E. and S.
Evesham R.D.C.—R. J. Atkinson, S., 64, Port-st.
Farnham U.D.C.—L. H. Starling, E. and S.
Hereford T.C.—W. M. Shimmin, City S.
Herne Bay U.D.C.—C.
Littleborough U.D.C.—G. F. Wild, E. and S.
Long Eaton U.D.C.—H. Raven, E. and S.
Nelson T.C.—F. V. Alexander, B.E. and S.
Royton U.D.C.—S.
Spenborough U.D.C.—J. Wallbank, M.Inst.Cy.E., E. and S.
Taunton T.C.—J. F. Shellard, B.E. and S.
Thame U.D.C.—C.
Westmoreland C.C.—Tars. H. B. Greenwood, C., Kendal.
Whitworth U.D.C.—E. and S.
York T.C.—Chas. J. Minter, City E

FEBRUARY 13.

Aylesbury T.C.—J. Duncan Dugdale, Deputy B.E. and S.
Bermondsey B.C.—F. J. R. Mountain, T.C.
Bromley T.C.—H. Cliffe, B.E.
Carlton U.D.C.—J. A. West (A.), E. and S.
Chelmsford T.C.—V. J. Willis, B.E. and S.
Crosby T.C.—J. R. Fothergill, B.E. and S.

Eastbourne C.B.—B.E.
Ilkley U.D.C.—S.
Kent Rivers Catchment Board.—E. to Board, 76-78, College-rd., Maidstone.
Peterborough T.C.—City E. and S.
Runcorn U.D.C.—A. B. Cunningham, E. and S.
Salford T.C.—City E.
Wallasey C.B.—B.S.
Watford T.C.—W. W. Newman, B.E.

FEBRUARY 14.

Barnet U.D.C.—E. and S.
Holborn B.C.—J. E. Parr. B.E. and S.
Louth T.C.—B.S.
Penarth U.D.C.—Dudley E. Morse, E. and S.
Rotherham R.D.C.—A. E. Lant, E. and S.
Sherborne U.D.C.—E. and S.
Southampton C.B.—Waterworks E.
Stratford-upon-Avon T.C.—F. W. Jones, B.S.

ENGINEERING, IRON AND STEEL.

FEBRUARY 8.

Brentwood U.D.C.—1,000 lin. yds. of 9 in. dia. glazed stoneware soil sewer, with manholes and appurtenant works from Three Arch pumping station to Hanging Hill-ln. D. A. Dallas, E. and S. Dep. £5 5s.

Cardiff T.C.—Approx. 3,600 lineal yds. of 36 in. and 39 in. dia. concrete pipes and 30 lineal yds. of 15 in. dia. stoneware pipe sewers, etc., at Ely. City E.

Durham C.C.—Pre-cast reinforced concrete slabs and wall posts in connection with trench lining. Wm. J. Merrett, C.E., S. and architect, 43, Old Elvet, Durham.

FEBRUARY 9.

Plymouth T.C.—Deepening and lining of A.R.P. trenches at Beaumont Park. J. Paton Watson, City E. and S., Plymouth. Dep. £1 1s.

Westmeath County Board of Health and Public Assistance.—Water supply for town of Moate. P. H. McCarthy, M.A., B.A.I., M.I.C.E.I., consulting engineer, 26, Lower Leeson-st., Dublin. C.S., £5 5s.

FEBRUARY 11.

Staffordshire C.C.—Widening of Pelsall-ln. county bridge, Rushall, on Rushall-Hednesford-rd. C.S., Stafford. Dep. £2 2s.

FEBRUARY 13.

Bath T.C.—Permanent lining of approximately 840 lin. yds. of trench shelters. City E.

Newmarket R.D.C.—Laying of 13 miles of asbestos cement mains. Lt.-Col. W. Herbert Bateman, Batheaston, Bath. Dep. £5 5s.

Portsmouth T.C.—Road and bridge works for Eastern-rd. extension. City E. Dep. £5 5s.

Willenhall U.D.C.—Two small road bridges over river Tame. G. A. Waite, S. Dep. £2 2s.

York T.C.—Extensions to sewage disposal works, contracts Nos. 5 and 6. C. J. Minter, City E. Dep. £1 1s. each contract.

FEBRUARY 14.

***Battersea B.C.**—Permanent lining of trenches in borough with concrete and/or steel. H. Burleigh, B.E. and S. Dep. £2 2s.

Bromley T.C.—Lining trenches at Martins Hill site, Whitehall recreation ground side, and New-st. Hill site. Harold Cliffe, B.E. Dep. £1 each site.

Colne Valley Sewerage Board.—1¾ miles of 75-in. dia. sewer in steel and concrete pipes and c.i. segments, and about 1 mile of 15-in. dia. sewer in iron and concrete pipes, together with manholes, river, canal and railway crossings and other appurtenant works. Sandford Fawcett & Partners, consulting engineers, 53, Victoria-st., Westminster. Dep. £10 10s.

Peterborough T.C.—Concrete reservoir at Etton pumping station. John Taylor & Sons, engineers, Caxton House, London, S.W.1. Dep. £5.

FEBRUARY 15.

Chatham T.C.—Excavation and lining with concrete approximately 1,386 yds. lin. of trenches. R. L. Honey, B.E. and S. Dep. £2 2s.

Egyptian Government.—Supply and erection of water pipe lines for Fayoum water works installation. Chief Inspecting Engineer, Egyptian Government, 41, Tothill-st., London, S.W.1.

FEBRUARY 17.

Cheshunt Urban and Hatfield R.D.C.—For main sewerage and sewage disposal. D. Balfour & Sons, consulting engineers, 47, Victoria-st., Westminster, S.W.1. Dep. £5.

FEBRUARY 18.

Margate T.C.—Two reinforced concrete bridges at Fort-rd. B.E. and S.

Mildenhall R.D.C.—Water supply scheme. Silcock & Simpson, consulting engineers, 25, Victoria-st., Westminster, S.W.1. Dep. £5.

FEBRUARY 20.

Ceiriog R.D.C.—1,750 yds. f 4 in. dia asbestos-cement pressure pipes and construction of reservoir at Llansilin, Oswestry. R. W. Aubrey, S. Dep. £2 2s.

Exmouth U.D.C.—3,100 lin. yds. of concrete pipes and concrete tube sewers, varying from 9 in. to 51 in. dia., complete with manholes, storm relief chambers and other works. M. G. & R. W. Weekes, chartered civil engineers, 75, Victoria-st., London, S.W.1. Dep. £5 5s.

Wanstead and Woodford T.C.—Permanent lining of trenches. Armand D. Ward, B.E. and S. Dep. £2 2s.

FEBRUARY 25.

Blaby R.D.C.—Additional storage tanks for Elmesthorpe and Stoney Stanton water supply. F. W. James, E. Dep. £2 2s.

FEBRUARY 27.

Essex C.C.—New bridge and approach spans to eliminate the level crossing, being part of works in connection with Weeley by-pass. R. H. Buckley, C.S., Chelmsford. Dep. £2 2s.

Middlesex C.C.—East Middlesex main drainage, East Barnet branch sewer, contract E.S.2. J. D. & D. M. Watson, engineers, 3, Central-bldgs., Westminster, S.W.1. Dep. £3 3s.

MARCH 1.

Inverness T.C.—New bridge across the River Ness to replace existing suspension bridge. Sir Murdoch MacDonald & Ptnrs., consulting engineers, 72, Victoria-st., London, S.W.1. Dep. £5.

MARCH 14.

Australia (State Electricity Commission of Victoria).—Boiler house plant and steel buildings for Newport "C" Power Station, including water tube boilers, pipework, coal and ash handling plants and steel chimneys, boiler house and tank house buildings. Dept. of Overseas Trade, S.W.1.

MARCH 31.

Ceylon Government.—Gravity type dam, tunnel, power house building, etc.; two pipe lines; three waterwheel generator sets; 66 kv. duplicate transmission lines for hydro-electric scheme. Preece, Cardew & Rider, engineers, 8 and 10, Queen Anne's-gate, Westminster, S.W.1. Dep. £10 each section.

ROAD, SEWERAGE AND WATER WORKS.

FEBRUARY 8.

Kirkcaldy T.C.—Construction of a 9 in. dia. fire-clay pipe sewer at Lady Nairn-av. (extension) and Strathearn Park. B.E.

Leamington Spa T.C.—Concrete pipe sewers and stoneware pipe sewers. J. Sutcliffe, B.E. Dep. £2 2s.

Rochdale T.C.—Paving of Melville-st and Sarah Butterworth-st. B.S.

FEBRUARY 9.

Newbury R.D.C.—Laying and jointing of water mains. E. G. Hampshire, S. Dep. £2 2s.

Wood Green T.C.—Street improvements within the Borough. B.E. and S. Dep. £1 1s.

FEBRUARY 10.

Berkhamsted U.D.C.—Road-making, paving, etc., at Ravens-ln. S. Dep. £2 2s.

Chesterfield R.D.C.—Laying of glazed stoneware pipes in foul sewers on Old Brampton sewerage scheme. J. B. Wikeley, E. and S.

Dingwall T.C.—Water mains. D. MacDonald, B.S.

100
YEARS

We enter the
New Year
And our Centenary
with grateful thanks.

JOHN STUBBS
MARBLE & QUARZITE LTD

Esher U.D.C.—Improvement of Claygate-ln., Thames Ditton, and widening and reconstruction of between streets between Anyards-rd. and the "White Lion" inn, Cobham. S. Dep. £2 2s. each.

Norton R.D.C.—4,000 yds. of galvanised water-mains for providing water services to remote farm properties in various parishes. T. W. Preston, C.

Plymouth T.C.—Making-up of 19 private streets. J. Paton Watson, City E. and S. Dep. £2 2s.

Stafford T.C.—Laying of about 1,000 yds. of stoneware pipe sewers and about 250 yds. of cast-iron rising main at Rickerscote. W. Plant, B.E. Dep. £2 2s.

FEBRUARY 11.

Colne Valley U.D.C.—Widening and improvement of Radcliffe-rd., nr. Wellhouse school. Highways S. Dep. £1.

Durham C.C.—Making-up North-st. back, New Silksworth, Tunstall. Wm. J. Merrett, C.E. and S., 43, Old Elvet, Durham.

Durham C.C.—Making-up Saltaire-ter., front, Saltaire-ter., back, Cross-st., between 24 and 25, Saltaire-ter., Greatham. Wm. J. Merrett, C.E. and S., 43, Old Elvet, Durham.

Guildford T.C.—J. W. Hipwood, B.E. Dep. £2 2s.

Northern Ireland Government.—Road underpass at Tillysburn, nr. Belfast. Ulster Agent in Great Britain, 21, Cockspur-st., London, S.W.1. Dep. £10.

Orpington U.D.C.—Lining of A.R.P. trenches. E. and S.

Rawmarsh U.D.C.—Making-up Quarry-st., Dale-st., Park-st. and certain back roads. J. R. S. Creighton, S. Dep. £1.

West Riding C.C.—Re-asphalting of playground at Stourton Council infants' school, Rothwell. Percy Beaumont, Divisional Clerk, 8, St. John's North, Wakefield.

Westmorland C.C.—Spraying with tar and bitumen 2,000,000 sq. yds. of county roads, and supply of 750,000 gallons (more or less) of refined tars, etc. H. B. Greenwood, C., Exchange-chambs., Kendal.

FEBRUARY 13.

Andover R.D.C.—Laying of 2,300 yds. of 4 in. asbestos cement water main and 250 yds. of 6 in. and 4 in. cast-iron water main, complete with all valves, hydrants, chambers, etc., at Shipton Bellinger. M. G. & R. W. Weekes, engineers, 75, Victoria-st., Westminster, London, S.W.1. Dep. £2 2s.

Chepping Wycombe T.C.—Footpath, Fryer's-ln. to 50 yds. east of Desborough Park-rd. J. A. Parkinson, B.S.

Chesham U.D.C.—Supplying and laying mastic asphalt surfacing in Red Lion-st. and The Broadway. S. Dep. £2.

Dunfermline T.C.—Reinforced concrete roadways, Brucefield housing scheme. D. H. Shaw, B.E. Dep. £5 5s.

Harrow U.D.C.—Making-up Highfield-av., Pinner South. H. W. Rackham, S. Dep. £3 3s.

Heston and Isleworth T.C.—Reconstruction of Richmond-rd. and St. Margaret's-rd. J. G. Carey, B.E. and S. Dep. £2 2s.

Heston and Isleworth T.C.—Reconstruction new Heston-rd. and asphalt resurfacing St. John's-rd. J. G. Carey, B.S. Dep. £2 2s. each.

Huntingdonshire C.C.—Reconstruction from Alconbury-hill to Woolpack-crossroads of London-Edinburgh-Thurso trunk road. T. H. Longstaff, C.S., Huntingdon. Dep. £10 10s.

Leeds T.C.—Roadwork. R. A. H. Livett (A.), Housing Director, 26, Gt. George-st. Dep. £2.

Newcastle-upon-Tyne T.C.—Development road in concrete at Newcastle general hospital. City Architect, 18, Cloth-market. Dep. £1 1s.

Slough. T.C.—Reconstruction junction of Furnival and Essex-avs., Farnham-rd., and making-up Dundee-rd., Ipswich-rd., Argyle-av. and Leeds-rd. West. Alan Bromly, B.E.

Sutton and Cheam T.C.—Steel reinforced concrete or other linings for air raid trenches. H. N. Michell, E. and S. Dep. £1 1s.

Uxbridge U.D.C.—Making-up Dickens-av. (part of), White Heart-av., Cherry-gr. E. T. Bolton, E. and S., 263, High-st. Dep. £2 2s.

Wirral U.D.C.—Approx. 168 lin. yds. of 6 in. dia. stoneware sewer at Heswall. S. Dep. £1 1s.

FEBRUARY 14.

Bletchley U.D.C.—Making-up of part of North-st. A. Bates, E. and S. Dep. £1 1s.

Sutton and Cheam T.C.—Surface dressing roads within the Borough. H. N. Michell, B.S.

FEBRUARY 15.

Rowley Regis T.C.—Carriageway, footpaths, etc., at Best-st., Old Hill. L. J. Taylor, B.S. Dep. £2 2s.

Wallasey C.B.—Surface water sewer—Hoylake-rd. B.S.

FEBRUARY 17.

Antrim C.C.—Construction, reconstruction, surfacing and incidental works in connection with laying of single-coat asphalt on roads. C.S., County Courthouse, Belfast. Dep. £5 5s.

FEBRUARY 18.

East Kesteven R.D.C.—Road making, together with footpath, sewer, water main, etc., on housing estate, Walcot. E. H. Sille, S.

Eccles T.C.—1,030 sq. yds. of thin tarred or bituminous carpet in Vicarage-rd. B.E. and S.

Feltham U.D.C.—720 yds. of 9-in. C.I. pipes. Council Offices. Dep. £2 2s.

Leek U.D.C.—540 lin. yds. of 30-in. reinforced concrete pipes, together with the construction of manholes and other appurtenant works, Blackacres. J. A. Gilchrist, S. Dep. £1 1s.

Manchester T.C.—Draining, kerbing, flagging (artificial) and paving (concrete), Alexandra-dr., Burnage, Roseleigh-av., Burnage, Derby-gr., Levenshulme, Alington-st., Rusholme, etc. Highways Dept. (District Surveyors' Office), Town Hall, Manchester, 2. Dep. £1 1s.

Prestwich U.D.C.—Reinstatement of tramway track, Bury New-rd. Handel Kay, E. and S. Dep. £2 2s.

FEBRUARY 20.

New Windsor T.C.—Clewer Manor housing estate—construction of new roads and sewers, and St. Leonard's-rd. housing estate—construction of new roads and sewers, and Barry-drive—construction of new sewer. B.E. Dep. £1 1s.

FEBRUARY 21.

Doncaster C.B.—Widening of Warmsworth-rd. from Austen-av. to borough boundary. B.E., 2, Priory-pl., Doncaster. Dep. £2 2s.

Kidderminster T.C.—For eastern area drainage—section 2. J. Hawcroft, B.E. and S. Dep. £2 2s.

South Cambridgeshire R.D.C.—2,270 yds. of "spun" cast-iron water mains. Sands & Walker, engineers, Milton-chambs., Nottingham. Dep. £2 2s.

FEBRUARY 22.

Fareham U.D.C.—For Portchester sewerage and Fareham sewerage. H. T. Privett, S. Dep. £5.

Paddington B.C.—General works to sewers, etc., in Borough. W. H. Bentley, T.C.

FEBRUARY 23.

Lambeth B.C.—Supply and laying of wood paving blocks. Osmond Cattlin, B.E.

Penybont R.D.C.—Laying of sewers and other appurtenant works at Fforddygyfraith. J. Simon Davies, S. Dep. £5 5s.

FEBRUARY 25.

Newport (Mon.) C.B.—First instalment of Talybont second pipeline. W. W. Marsden, Crown-arcade. Dep. £20.

Seaham U.D.C.—Main sewerage. Taylor & Wallin, engineers, 1, Saville-pl., Newcastle-on-Tyne. Dep. £5.

FEBRUARY 28.

Berkshire C.C.—Construction of Maidenhead by pass road from Maidenhead Thicket to River Thames, South of Bray, including all bridges Lt.-Col. J. F. Hawkins, C.S., Reading. Dep. £25.

Halifax C.B.—D. T. Lloyd Jones, B.E.

Public Appointments.

FEBRUARY 6.

Bath T.C.—Architectural Assistant. City E.

Hastings C.B.—Clerk of Works. B. and Water E., 37, Wellington-sq.

London City Corporation.—Structural Engineering Assistants and Junior Engineering Draughtsman (Temp.). T.C., Public Health Dept., Guildhall, E.C.2.

Sheffield T.C.—Draughtsmen (Temp.). General Manager, Commercial-st.

FEBRUARY 7.

Hackney B.C.—Building Works Superintendent. T.C.

FEBRUARY 8.

***Bilston T.C.**—Clerk of Works. T.C.

Salford T.C.—Two Assistants. City E.

FEBRUARY 10.

Monmouthshire E.C. — Architectural Assistants (Temp.). S., Newport, Mon.

***Shrewsbury.**—Architect and Civil Engineering Assistant (Temp.). Commander, R.E., Kinnersley House, Belle Vue.

FEBRUARY 11.

***Huddersfield C.B.**—Architectural Assistant. B.E.

FEBRUARY 12.

***Liverpool T.C.**—Surveying Assistant. T.C.

FEBRUARY 13.

London (M.W.B.).—Assistant River Foreman. C., 173, Rosebery-av.

***London.** — Technical Assistants. Architect, County Hall, S.E.1.

***Newport (Mon.) C.B.**—Architectural Assistant. C. F. Ward (F.).

***Norwich T.C.**—Assistant Quantity Surveyor (Temp.). City Architect.

***Wimbledon T.C.**—General Architectural Assistant. B.E. and S.

FEBRUARY 15.

***Chatham T.C.**—Engineering Assistant. B.E. and S.

***Croydon C.B.**—Architectural Draughtsman. B. Valuer, 10, Wellesley-rd.

***West Riding of Yorkshire C.C.**—Quantity Surveying Assistants and Architectural Assistants. Education Officer, Wakefield.

FEBRUARY 17.

***Nottingham T.C.**—Second Assistant Quantity Surveyor. E. W. Roberts (A.), Nottingham.

FEBRUARY 18.

***Leicester T.C.**—Architectural Assistant (Temp.). City E. and S.

***Leicester T.C.**—Architectural Assistant. City E. and S.

***Middlesbrough E.C.** — Junior Architectural Assistant. Director of Education.

***Middlesex C.C.**—Instructor. Principal, Tottenham Polytechnic, High-rd.

FEBRUARY 24.

***London.**—Visiting Teachers. Education Officer (T.1), County Hall, S.E.1.

FEBRUARY 27.

***Cambridgeshire C.C.**—County Architect. C.

NO DATE.

***Hackney B.C.**—Technical Assistants. B.E. and S.

***London.**—Architectural and Engineering Assistants. Under-Secretary of State, Air Ministry, Adastral House, W.C.2.

***London.** — Technical Assistants. Architect, County Hall, S.E.1.

***Maidstone.**—Clerk of Works. Secretary, Kent County Ophthalmic and Aural Hospital.

NEWS ITEMS

Housing and Rates of Interest.

The Ministry of Health announce that His Majesty's Treasury have directed that the rate of interest to be charged on loans, secured on local rates, made on and after January 2, 1939, from the Local Loans Fund to Local Authorities for any purposes of the Housing Acts, the Housing (Rural Workers) Acts, 1926 to 1938, and the Small Dwellings Acquisition Acts, 1899 to 1923, shall be 3⅜ per cent. The rate previously fixed was 3⅝ per cent.

Import Duties Advisory Committee.

The Import Duties Advisory Committee give notice of an application for an increase in the import duty on plywood, including laminboard, blockboard and battenboard, faced with gaboon mahogany (okoumé). Any representations which interested parties may desire to make in regard to this application should be addressed in writing to the Secretary, Import Duties Advisory Committee, Shell-Mex House, Strand, London, W.C.2, immediately.

The Late John B. Whitehouse.

Mr. John Benjamin Whitehouse, a past president of the Birmingham Association of Building Trade Employers, and of the Midland Federation of Building Trade Employers, has died at the age of 72. A native of Birmingham, he was a son of Mr. Benjamin Whitehouse, founder of the firm of B. Whitehouse and Sons, builders, of which he was chairman. During his regime the firm has carried out many contracts for the erection of public buildings and schools.

Architects' Conference on Lighting.

The Architects' Conference on Lighting, 1939, convened by the Electric Lamp Manufacturers' Association of Great Britain, Ltd., Lighting Service Bureau, 2, Savoy-hill, W.C.2, is being held on Wednesday evenings, February 1 to 22, commencing at 7 p.m. Among the architects who will speak at the Conference are Messrs. Serge Chermayeff, F.R.I.B.A., C. H. James, A.R.A., Lovett Gill, F.R.I.B.A., Thos. E. Scott, F.R.I.B.A., R. A. Duncan, A.R.I.B.A., Walter Goodesmith, A.R.I.B.A., R. O. Sutherland, A.R.I.B.A., and Oliver Bernard, F.R.I.B.A. Reservations for the Conference can be made on application to the Bureau.

Aerodynamics of the Domestic Open Fire.

A lecture on "The Aerodynamics of the Domestic Open Fire" was given recently by Professor P. O. Rosin at the Institution of Civil Engineers. A film illustrating the cause of smoky chimneys and the results obtained in the course of investigations made was shown. Arrangements can be made for further exhibitions of the film to those interested in the subject. Applications should be made to the British Coal Utilisation Research Association, 54, Victoria-street, London, S.W.1.

Hardware Buyers' Guide, 1939.

We acknowledge receipt of "The Ironmonger" Diary and Hardware Buyers' Guide for 1939. Interesting features of the guide include a classified list of trade-marks and brands, export credit regulations, goods motor vehicle regulations, standards for building materials; tables of gauges, etc., for metals, and poisons and postal data. Also given are some informative notes on forming a limited company, national insurance, and licences in trade. The diary and guide is published by "The Ironmonger," 28, Essex-street, Strand, W.C.2.

Electrical Contractors' Association.

At a recent meeting of the E.C.A. council a number of applications for membership were considered, and the following contractors were admitted to full membership:—Middlesex Electrical Co., Ltd., London; Jewell and Norcombe, Dorchester; F. I. Rice, Bristol, 4; Neon Electrical Contractors, Bristol, 3; A. Brand, Plymouth; J. Elvins, Birmingham; Lamco Electric, Aston; E. Perry, Birmingham, 6; R. V. Baker, Worcester; A. H. Clark and Co., Hull; J. H. Graham and Sons, Ltd., Hull; F. Wood, Alderley Edge; W. E. Kidd, Warrington; I. Drazin, Hampstead, N.W.; Horton, Smith and Co., Ltd., London; Geo. Fleming, Gravesend.

Scottish Housing Drive.

The sweeping away of most of Scotland's slums and the ending of overcrowding by 1942 are envisaged in a circular explaining the operations of the Housing (Financial Provisions) (Scotland) Act, 1938, which the Department of Health for Scotland have recently issued to local authorities. The Act (the circular explains) makes important alterations in the amount of Exchequer and rate contributions payable for new houses built for the replacement of unfit houses or for the relief of overcrowding; it extends and amends the existing provisions for the payment of additional Exchequer contributions in certain circumstances towards the extra expense incurred by local authorities in connection with clearance and redevelopment areas; it provides a new subsidy towards the cost of building tenements on expensive central sites in large burghs; and it makes the necessary financial provision to enable demonstration housing schemes to be built, without cost to local authorities, in districts outside the Special Areas.

Two Years' Progress at Treforest.

It is now a little over two years since work began on the development of a few meadows, bounded by unkempt hedgerows, at Treforest, South Wales, for the purposes of a trading estate. To-day the Treforest Trading Estate, as it is now called, contains 38 factories, 32 of them being in production, and a further 20 in course of erection. The River Taff has been specially bridged to give rail connections, and the former "B" class road which bounded the Estate has been reconstructed as an 80-ft. wide double-track carriageway.

Despite the fact that many of the employees on the Estate were formerly engaged in the heavy industries of coal, steel and shipping, they have easily adapted themselves to the more intricate types of factory work. The employers, it is reported, find it satisfactory to give unskilled workpeople a chance of learning a semi-skilled occupation in the firm's time. Over 1,000 people are working in the factories and 600 men are engaged on construction work.

Reconstruction of Rural Houses, Scotland.

By the end of last September, 27,639 dwellings in Scotland had been reconditioned by owners with assistance under the Housing (Rural Workers) Acts from local authorities. The amounts of grants paid up to that date was £2,372,984. In nine months ended September last, reconstruction was completed on 1,995 dwellings as compared with 1,783 for the corresponding period of 1937.

The number of applications made for assistance in the quarter ended June 30, 1938, was 698, as compared with 1,441 in the same quarter of 1937, but dropped to 514 in the quarter ended September 30 last. At that date works of reconstruction were proceeding on 4,048 dwellings.

A booklet—entitled "New Houses for the Agricultural Population. Improvement of Housing for Rural Workers"—just issued by the Department of Health for Scotland, is obtainable at any Post Office. It explains how grants may be earned both for new houses and for the reconstruction and improvement of existing houses.

Master Builders' Elections.

Mr. E. J. Smith, of Cardiff, is the new President of the South Wales Federation of Building Trades' Employers.

Mr. Griffith Davies, Senghenydd, has been appointed President of the East Glamorgan and Monmouthshire Valleys Master Builders' Association.

Mr. J. J. Bell is President for the ensuing year of the Carlisle and District Building Trades' Association.

The new President of the Torquay Federation of Building Trades' Employers is Mr. Percy W. Wilkins.

CURRENT AND PROPOSED BUILDING WORK*

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Batley.—Montague Burton, Ltd., Hudson-rd. Woollen Mills, Leeds, 8, propose two-storey block in Commercial-st., containing 5 shops with large billiards hall over. Architect, N. Martin (L.), Hudson-rd. Mills.

Bedworth.—Nicholas Chamberlaine Charity Foundation Managers proposing school, at £34,500.

Birmingham.—Lee, Longland & Co., Ltd., 224 Broad-st., propose rebuilding premises, Broad-st. Architects, Wood & Kendrick, and E. F. Reynolds, 57, Colmore-row.

Bolton.—P.A.C. approved scheme of proposed extensions and improvements at Fishpool Institution, at £78,900.

Brighton.—T.C. approved further improvement of Madeira-dr., at £20,500.

Carlisle.—County sanatorium to be built at Ortonpk., nr. Carlisle, is estimated to cost about £90,000, towards which Commissioner for Special Areas has intimated a 65 per cent. grant.

Colwyn Bay.—Plans passed: Showroom, café, etc., corner of Promenade and Nantygamar-rd., Hutchison & Wilde, Ltd.

Congleton.—Board of Management of Congleton War Memorial Hospital proposing extensions. Architects, Wood & Goldstraw (A.), Victoria-chams., Tunstall, Stoke-on-Trent.

Denbigh.—Committee of Visitors, North Wales Counties Mental Hospital, proposing extensions to Mental Hospital, Denbigh, at £220,000. Architect, Mr. Webster.

Deptford.—B.C. approved: J. Stone & Co., Ltd., Arklow-rd., alterations and an extension to railway arches Nos. 264 and 265, Arklow-rd. and Rolt-st., for construction of air-raid precautions first-aid station.

Dorking.—C. of E. School Managers to build premises at Beare Green. Plans by Dixon & Quick, 8, Quarry-st., Guildford.

Farnworth.—Lancashire E.C. approved plans for Catholic school at Larkhill Hill, for 320 scholars. H. Greehalgh, architect, 15, Mawdesly-st., Bolton.

Gateshead.—Newcastle Breweries, Ltd., Haymarket, Newcastle-on-Tyne, to erect hotel in Kells-la.—Approval of licensing authorities will be sought shortly for proposed alterations to public-house in Sunderland-rd., for J. W. Cameron and Co., Ltd., 2, John-st., Sunderland. Architect, A. Pearson, 5, Melvyn-gdns., Roker, Sunderland. Flour mill at £500,000 by Joseph Rank & Co., Ltd., of Hull. Architects, Gelder & Kitchen, of Hull.

Halifax.—A.R.P. Committee approved plans for making underground first-aid post, first-aid depot and permanent trenches in Woolshops, at over £23,000.

Hampstead.—B.C. approved: E. G. Cole, development of site on south side of Parliament-hill, adjoining Hampstead Heath Station; A. Squire, conversion of 75, Compayne-gdns. into 7 self-contained flats.

High Wycombe.—T.C. approved: 20 houses, off Rupert-av., C. Carr; showrooms and store, Queen's-rd., W. S. Shuttleworth.

Hornchurch.—U.D.C. approved: 11 garages, Danbury-rd., South Hornchurch—Baker, Hammond & Laver; steelwork details-factory, Ferry-ln., Rainham—H. P. Orrock; addition to Craigdale Hall, Craigdale-rd.—trustees (W. G. Curtis); offices and flat, Station-ln., Hornchurch—J. H. Burrows & Sons; develop land in St. Albans-av., Cranham—Silverwood Estates, Ltd.; 7 pairs bungalows in lieu of houses, Woodhall-cres.—Fenner & Webb.

Huddersfield.—Erection of new municipal hospital. Architects, Thos. Worthington & Sons, 178, Oxford-rd., Manchester.—Rev. James Grogan, St. Patrick's, 34, New North-rd., propose church at Sheepbridge. Architects, Clement William & Sons, Commercial-st.

Kidderminster.—Edwin S. Hoare, consulting engineer, Lancaster House, Newhall-st., Birmingham, been appointed for heating and lighting systems for the proposed new nurses' home at institution for P.A.C. Plans by the County Architect, A. V. Rowe, 38, Foregate-st., Worcester.

Leeds.—Plans for Roman Catholic church, hall and presbytery, to be erected on Gipton housing estate, been approved by Housing Committee.

Limerick.—Corporation been authorised to raise a loan of £168,000 for Killeely scheme of 334 houses.

Liverpool.—The Senate of the Liverpool University propose civil engineering and metallurgy building on Brownlow Hill, at £20,000. Plans by R. H. Davies (A.), Wellington-bldgs., The Strand.—Cruickshank & Seward, architects, 16, Princess-st., Manchester, preparing plans for offices, Prescot-rd., for Britannic Assurance Co., Ltd., Broad-st. Corner, Birmingham.—The Society of Daughters of Mary, St. Mary's Settlement, Edge-la., propose chapel and presbytery. F. X. Velarde (A.), architect, 3, Abercromby-sq.

London.—L.C.C. recommend sanction to borrowing by St. Pancras B.C. of £150,569 for refuse disposal purposes; Woolwich B.C. of £4,500 for housing; and Hammersmith B.C. of £21,966 for paving works.—£369 to be spent in respect of rebuilding of outside lavatory at Harrow-rd. weights and measures and gas-meter testing offices.

London (M.W.B.).—Board approved repairs to brickwork and repuddling, Rock Hill reservoir, at £530; adaptation, etc., at Tufnell Park and Hampstead area, £1,470; and adaptation, etc., of district accommodation, Stratford, £1,180.

Macclesfield. — Justices approved plans for "Brocklehurst Arms" hotel, Tytherington, for Walker & Homfray, Ltd., Woodside Brewery, Eccles New-rd., Salford. Architect, W. Dobson Chapman, Pear Tree House, Jordangate. Cost £12,000.

Maidstone.—T.C. to adapt Old Tithe Barn for use as decontamination centre and A.R.P. mobile squad headquarters, at £1,136.—Subject to Minister, decontamination centre and control room will be built at police station, at £1,200, and store in Albion-pl., at £350.

Manchester.—Catholic Authorities of St. Cuthbert's, Cotton-la., Withington, propose additional accommodation for 200 children. Architects, W. T. Gunson & Son 10, Marsden-st., Manchester.

Meath.—C.C. adopted plans for county library at Navan, at £4,000.

Middlesbrough.—Architects for extensions to premises for Middlesbrough and District Motor Club are Archibald and Archibald, 23, Albert-rd.—J. W. Verity, 64, Green-la., Linthorpe, agent for promoters of plan for ice skating rink at Linthorpe.

Middlesex.—C.C. recommend £132 in connection with carrying out of certain structural and electrical alterations to ear, nose and throat theatre forming part of extensions to Redhill County Hospital. — Council approve agreement being entered into with L. and N.E.R. Co. and Finchley T.C. in connection with widening and reconstruction of railway bridge at Totteridge-la., Finchley.—Intimation to be given to Willesden T.C. that Council approves reconstruction and resurfacing of Harrow-rd., Willesden, from Wakeman-hill to Jubilee Clock at £36,387.—£535 in connection with renewal of rubber covering and asphalte to floors of corridors of Maternity Block and of 1st and 2nd floors at block F at West Middlesex County Hospital, approved.—£4,835 in respect of cost of constructing two additional arches to bridge carrying Hangar-la. (North Circular Road), Ealing, over Great Western Railway necessitated by railway works in connection with Shepherd's Bush-Ruislip extension, approved.—County Architect to arrange for provision of accommodation for 100 additional cycles at Pinner County School, £220.

Morpeth.—W. S. Sanderson, Northgate Cottage, proposes public-house near Widdrington Cross roads. —J. S. Jobling, Old Gaol-yd., to erect licensed premises at Stobhill.

Newcastle-on-Tyne.—E. M. Lawson (A.), Barras-bldgs., Barras Bridge, architect for hotel in Mill-la., for Calders, Ltd., West Blandford-st.—J. Baty & Son, estate agents, Blackett-st., acquired land rear of Northumberland-st., for firm proposing erection of new stores.—Kenneth Cross & Co., Saville-row, taken over large stores of Lowe & Moorhouse, Ltd., Northumberland-st., which are to be rebuilt.—R. Burke, Singleton House, Northumberland-rd., prepared plans for factory, Robson-st., for E. Malia.—A. Duke, Skinnerburn-rd., architect for garage in Scotswood-rd.—Tizer, Ltd., propose mineral water factory in Benfield-rd., to plans by H. B. Bearon, 11, The Rock, Bury.—Shops are to be erected at Fossway for Newcastle Co-op. Society, Ltd., to plans by C.W.S., Architects' Dept., 90, Westmorland-rd.—Plans approved for public-house in Armstrong-rd. and Ranmere-rd., for Robert Deuchar, Ltd., 146, Sandyford-rd., Newcastle. Architects, S. H. Lawson, Emerson-chams., Blackett-st., in conjunction with F. M. Dryden, 6, Market-st.—Approval given to plans for rebuilding "Brandling Arms" Hotel, Brandling Village, for Ridley, Cutter & Firth, Ltd. Architects, Hetherington & Wilson, 52, Westgate-rd.—Plans approved for extensions to pathological department and provision of students' lecture hall at Royal Victoria Infirmary. Cost £18,000. Newcombe & Newcombe, Eldon-sq., architects.—Extensions, including buildings and offices, to be made by Heaton Foundry Co. Architect, W. Riddle, 53, Denham-ter., Wallsend.

Newport (Salop).—Governors of Adams' Grammar School, Newport, Shropshire, proposing extensions, at £12,000. Architect, N. D. Sheffield (F.), 18, St. Thomas-st., London Bridge, S.E.1.

North Shields.—Smith's Dock Co., Ltd., ship-repairers, to erect new fitting shop.

Nottingham. — A. Eaton & Son, architects, 6, Strand, Derby, preparing plans for boys' club, Strelley-rd., Bilborough, at £25,000.

Poplar.—B.C. to spend £100,000 on provision of bomb-proof shelters and other A.R.P. work in borough.

Prescot.—W. Ellis (L.), architect, Union Bank-chams., Hardshaw-st., St. Helens, preparing plans for senior school, Scotch Barn-la., for St. Luke's R.C. church, Whiston, for Rev. H. Fitzpatrick.

Preston.—Lancs C.C. proposes to build regional police laboratory on site at rear of county offices. Cost, about £4,491.

Redhill.—Redhill Tile Co., Ltd., to rebuild offices, etc., Philanthropic-ln. Plans by J. W. Dyson, 1, High-st., Reigate.

Sheffield.—E. Cooper, Townend, Gleadless, proposes 576 houses, Handsworth Nurseries estate.

Snipstone (Notts).—The Miners' Welfare Central Fund, Romney House, Tufton-st., London, S.W.1, proposing pithead baths at colliery, Ashby-rd., Coalville, belonging to South Leicestershire Colliery Co., Ltd. Architect, J. H. Forshaw (F.), Romney House, Tufton-st., London, S.W.1.

Solihull.—Application by council for sanction to borrow £6,919 in respect of erection of new council offices been granted by M.H.

Staffs.—Approval given by E.C. to plans for erection of Roman Catholic senior school in Burton-rd., Dudley.

Sunderland.—River Wear Commissioners intend to build cold store, etc., in quay warehouse. W. S. Tripp, River Wear Commissioners' offices, engineer. —Plans in hand for new R.C. school, for Rev. R. Morrissy, St. Joseph's Presbytery, Millfield, Sunderland, and others. Architect, George E. Matkin, Barclays Bank-chams., Fawcett-st.

Tiverton.—R.D.C. approved: Alterations and additions to factory, Hemyock, for United Dairies, Ltd.; cottages at Kitwell-st., Uffculme, Trenchard & R. Redwood, Uffculme.

Tottenham.—T.C. approved: Incumbent of Christ Church, vicarage, Waldeck-rd.; Tottenham E.C., alterations, Downhills Park-rd., Belmont schools; F. H. Hayllar, alteration and re-erection of part of factory, Gourley-pl., Crowlands-bldgs.; S. Bysouth & Son, reconstruction of temporary workshops as permanent buildings, Page Green-rd., goods depot; Tottenham E.C., revised plan of school, Brook-st.; Greyhound Racing Association, Ltd., grand stand, Green-lanes, S.W. corner of Harringay Stadium.

Twickenham.—Plans passed by T.C.: Gordon Carrington Co., Ltd., shop, offices and garage, High-st., Whitton; N. V. Dyte, car showroom and 7 garages, Staines-rd.; F. Sneller, 16 flats, Elm Tree-rd., Teddington; Kingsbury & Son, Ltd., office and petrol pumps, Thames-st., Hampton; Couch & Coupland, public-house and car park, London-rd.; R. B. Rowell & Son, 20 houses, Talmagdns.

Tynemouth.—W. McEwan & Co., Ltd., brewers, propose hotel West Percy-rd., to plans by Page, Son & Bradbury, 75, King-st., South Shields.—W. Stockdale, 73, Howard-st., North Shields, to prepare final plans for new St. Cuthbert's R.C. senior school.

Urmston.—F. Entwisle, builder, Barton-rd., Davyhulme, Manchester, propose development of Croft Hall estate, Davyhulme, for 58 houses, to own plans.

Walsall.—Factory extensions, Bescot-cres., Smith, Bayliss & Nettlefold, Ltd. Architects, Cross & Cross, Ltd., constructional engineers, Pleck-rd.—Extensions to bazaar premises, Park-st., Marks and Spencer, Ltd., 82, Baker-st., London, W.1. Architects, N. Jones & Rigby, 271, Lord-st., Southport.

Wandsworth.—Interim development proposals approved by B.C.: Streatham High-rd.—offices at No. 245; Balham Hill—rebuilding of No. 83; Old Town, Clapham North—workshop, store, offices and garage on site of Nos. 65-69, and property at the rear thereof; Factory-sq., Streatham—canteen at premises of P. B. Cow & Co.; South Side, Clapham Common—extension to Montrose Court Hotel; Merton-rd., Southfields—two-storey addition to factory premises at No. 267; Stonehouse-st., Clapham North—conversion of No. 189 into offices, for use in connection with Stonehouse Electrical Works; Station Parade, Balham High-rd.—four-storey office building; Garratt-ln., Fairfield—one-storey factory building and bridge at Veritas Mantle Wks.; Fairfield-st., Fairfield—one-storey extension to office building of Wandsworth & District Gas Co.; North-st., Clapham North—alterations and extensions to garage to form air-raid shelter at Albion Wks.; Mitcham-rd., Tooting—building on site of 55-57.—Building plans passed: W. J. Simms, Sons & Cooke, Ltd., block of flats (block 14) and administrative buildings on L.C.C. Springfield estate, Wandsworth-rd.; Fairfield—Walker (Tooting), Ltd., day nursery in Fairfield-st. adjoining Municipal-bldgs.; Putney —Hall, Bedall & Co., Ltd., alterations and additions to "Half Moon" p.h., Lower Richmond-rd.

Washington.—John Jeffrey & Co., brewers, Heriot Brewery, Edinburgh, to erect public-house junction of Fatfield-rd. and Eden-ter., to plans by Hetherington & Wilson, 52, Westgate-rd., Newcastle-on-Tyne.

West Bromwich.—T.C. to consider recommendation of Housing Committee that £66,750 be advanced to Hamstead Colliery Co. towards cost of reconstruction of mining village of Hamstead. Company proposes to build approximately 178 houses.

West Riding.—C.C. approved plans for schools:—mixed junior and infants' school, Cusworth-la., Adwick-le-Street, for 290 children. Architects, T. H. Johnson & Son, Priory-pl., Doncaster; Connell, Ward & Lucas, architects, 25, Grosvenor-pl., London, S.W.1, for Marshland senior council school, Goole; J. C. Amory Teather (F.), Mazda-bldgs., Campo-la., architect for senior school at Penistone, and J. Mansell Jenkinson (F.), 18, Norfolk-row, Sheffield, architect for new senior council school at Garforth, Leeds.

Westminster.—City Council approved £50,000 on work of making permanent certain of shelter trenches in its area.

Whitley Bay.—A. R. Poole and Sons, Ltd., 45, Coniscliffe-rd., Darlington, appointed heating consultants for U.D.C.'s proposed new council offices.

Worksop.—B. of E. approved plans for Church schools at Blyth, for Managers. Architect, A. H. Richardson, Market-pl.—T.C. approved: Alterations to Central Hall, Bridge-st., for Pepper & Clarke, Bridge-st. Architects, J. Haslam & Son, Newcastle-av. Fitting shop, mould store and warehouse, Glass Works, Sandy-ln., C.W.S., Ltd.

York.—J. J. Hunt, Ltd., Ebor Brewery, Aldwark, propose erection of "Woolpack Inn," Peaseholme Green. Architects, S. Needham & Son, 3, Duncolme-pl., York.

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*See also List of Contracts Open.

****In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. List of abbreviations on page 263.**

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1939

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/7½	1/2¾
Aberdare	1/7½	1/2¾
Abergavenny	1/7	1/2¼
Abingdon	1/6	1/1½
Accrington	1/7½	1/2¾
Aldeburgh	1/4	1/0
Aldershot	1/5½	1/1¼
Alfreton	1/7½	1/2¾
Alnwick	1/7	1/2¼
Altrincham	1/7½	1/2¾
Amble	1/7	1/2¼
Amersham	1/6	1/1½
Ammanford	1/7½	1/2¾
Andover	1/5½	1/1½
Ardingley	1/5½	1/1½
Arundel	1/5½	1/1½
Ascot	1/5½	1/1½
Ashby-de-la-Zouch	1/6	1/1½
Ashford (Kent)	1/5½	1/1½
Ashford(Middlesex)	1/7½	1/2¾
Ashington	1/7	1/2¼
Ashtead	1/7½	1/2¾
Ashton-under-Lyne	1/7½	1/2¾
Aylesbury	1/5½	1/1½
Aylsham	1/4½	1/0½
Bagshot	1/5½	1/1½
Banbury	1/5½	1/1½
Barnsley	1/7½	1/2¾
Barnstaple	1/5½	1/1½
Barrow-in-Furness	1/7½	1/2¾
Barry	1/7½	1/2¾
Basingstoke	1/5½	1/1½
Bath	1/7	1/2¼
Batley	1/7½	1/2¾
Beaconsfield	1/6	1/1½
Beccles	1/4	1/0
Bedford	1/7	1/2¼
Berkhamsted	1/5½	1/1½
Berwick	1/7	1/2¼
Beverley	1/7½	1/2¾
Bexhill-on-Sea	1/6	1/1½
Bideford	1/5½	1/1½
Biggleswade	1/5	1/0¾
Billericay	1/5	1/0¾
Birchington	1/5½	1/1½
Birkenhead	‡§1/10	¶
Birmingham	1/7½	1/2¾
Bishop Auckland	1/7½	1/2¾
Bishops Stortford	1/6½	1/2
Blackburn	1/7½	1/2¾
Blackpool	1/7½	1/2¾
Blyth	1/7½	1/2¾
Bognor Regis	1/5½	1/1½
Bolton	1/7½	1/2¾
Bournemouth	1/6½	1/2
Bracknell	1/5½	1/1½
Bradford	1/7½	1/2¾
Bradford-on-Avon	1/4½*	1/0½
Braintree	1/5½	1/1½
Brentwood	1/7	1/2¼
Bridgwater	1/6	1/1½
Bridlington	1/7	1/2¼
Brighouse	1/7½	1/2¾
Brighton	1/6½	1/2
Bristol	1/7½	1/2¾
Broadstairs	1/5½	1/1½
Bromsgrove	1/7	1/2¼
Buckley	1/7½	1/2¾
Bungay	1/3½	11¾
Burnham-on-Crouch	1/4	1/0
Burnley	1/7½	1/2¾
Burslem	1/7½	1/2¾
Burton-on-Trent	1/7½	1/2¾
Bury	1/7½	1/2¾
Bury St. Edmunds	1/5	1/0¾
Buxton	1/7	1/2¼
Byfleet	1/6	1/1½
Cambridge	1/7	1/2¼
Canterbury	1/5½	1/1½
Cardiff	1/7½	1/2¾
Carlisle	1/7½	1/2¾
Carnforth	1/7½	1/2¾
Castleford	1/7½	1/2¾
Caterham	1/7½	1/2¾
Chard	1/4½*	1/0½
Chatham	1/6½	1/2
Chelmsford	1/7	1/2¼
Cheltenham	1/6½	1/2
Chepstow	1/6½	1/2
Chertsey	1/6½	1/2
Chester	1/7½	1/2¾
Chesterfield	1/7½	1/2¾
Chichester	1/5½	1/1½
Chorley	1/7½	1/2¾
Cirencester	1/5*	1/0¾
Clacton	1/5½	1/1½
Cleveleys	1/7½	1/2¾
Clitheroe	1/7½	1/2¾
Cobham (Surrey)	1/6½	1/2
Colchester	1/7	1/2¼
Colwyn Bay	1/6½	1/2
Congleton	1/7	1/2¼
Coventry	1/7½	1/2¾
Cranbrook	1/5½	1/1½
Cranleigh	1/5½	1/1½
Crawley	1/5½	1/1½
Crewe	1/7	1/2¼
Cromer	1/4½	1/0½
Crowborough	1/5½	1/1½
Cuckfield	1/5½	1/1½
Darlington	1/7½	1/2¾
Darwen	1/7½	1/2¾
Daventry	1/6	1/1½
Deal	1/5½	1/1½
Denbigh	1/6	1/1½
Derby	1/7½	1/2¾
Devizes	1/4*	1/0
Dewsbury	1/7½	1/2¾
Didcot	1/5½	1/1½
Diss	1/4	1/0
Doncaster	1/7½	1/2¾
Dorchester	1/5*	1/0¾
Dorking	1/6	1/1½
Dover	1/5½	1/1½
Dovercourt	1/5½	1/1½
Driffield	1/6	1/1½
Droitwich	1/7	1/2¼
Dudley	1/7	1/2¾
Dunstable	1/6	1/1½
Durham City	1/7½	1/2¾
Eastbourne	1/6½	1/2
E. Glam. (Mon. Val.)	1/7½	1/2¾
East Grinstead	1/5½	1/1¼
Edenbridge	1/5½	1/1½
Ely	1/4	1/0
Epping	1/7½	1/2¾
Exeter	1/7†	1/2¼
Exmouth	1/6	1/1½
Fakenham	1/4½	1/0½
Falmouth	1/6	1/1½
Fareham	1/6½	1/2
Faversham	1/5½	1/1½
Felixstowe	1/6½	1/2
Filey	1/6	1/1½
Fleetwood	1/7½	1/2¾
Flint	1/7½	1/2¾
Folkestone	1/5½	1/1½
Frinton-on-Sea	1/5½	1/1½
Frome	1/4½*	1/0¾
Gainsborough	1/6½	1/2
Gateshead	1/7½	1/2¾
Gillingham (Kent)	1/6½	1/2
Glossop	1/7½	1/2¾
Gloucester	1/7†	1/2½
Godalming	1/5½	1/1½
Goole	1/7½	1/2¾
Gosport	1/7	1/2¼
Grantham	1/6½	1/2
Gravesend	1/7	1/2¼
Great Yarmouth	1/5½	1/1½
Grimsby	1/7½	1/2¾
Guildford	1/5½	1/1½
Guilsborough	1/6	1/1½
Halifax	1/7½	1/2¾
Hanley	1/7½	1/2¾
Harpenden	1/6½	1/2
Harrogate	1/7½	1/2¾
Hartlepools	1/7½	1/2¾
Harwich	1/5½	1/1½
Haslemere	1/5½	1/1½
Hastings	1/5½	1/1½
Hatfield	1/7	1/2¼
Haywards Heath	1/5½	1/1½
Hednesford	1/7	1/2¼
Hemel Hempstead	1/6½	1/2
Henley-on-Thames	1/5½	1/1½
Hereford	1/5½*	1/1½
Herne Bay	1/5½	1/1½
Hertford	1/7	1/2¼
Heysham	1/7½	1/2¾
Hitchin	1/6	1/1½
Hoddesdon	1/7	1/2¼
Holt (Norfolk)	1/4	1/0
Horley	1/5½	1/1½
Horsham	1/5½	1/1½
Horwich	1/7½	1/2¾
Huddersfield	1/7½	1/2¾
Hull	1/7½	1/2¾
Hunstanton	1/4½	1/0½
Huntingdon	1/5	1/0¾
Ilfracombe	1/5½	1/1½
Ingatestone	1/6	1/1½
Ipswich	1/7	1/2¼
Isle of Thanet	1/5½	1/1½
Isle of Wight	1/4½	1/0½
Keighley	1/7½	1/2¾
Kenilworth	1/7½	1/2¾
Kettering	1/7	1/2¼
Kidderminster	1/7	1/2¼
King's Lynn	1/5½	1/1½
Kirkham	1/7½	1/2¾
Knowle	1/7	1/2¼
Lancaster	1/7½	1/2¾
Leamington	1/7½	1/2¾
Leatherhead	1/6½	1/2
Leeds	1/7½	1/2¾
Leicester	1/7½	1/2¾
Leighton Buzzard	1/4½	1/0½
Letchworth	1/6	1/1½
Lewes	1/5½	1/1½
Lichfield	1/6½	1/2
Lincoln	1/7½	1/2¾
Littlehampton	1/5½	1/1¾
Liverpool	‡§1/10	¶
Llandudno	1/6½	1/2
Llanelly	1/7½	1/2¾
London—		
12 m. radius	1/9*	1/3¾
12-15 m. radius	1/8½*	1/3½
Long Eaton	1/7½	1/2¾
Longton	1/7½	1/2¾
Loughborough	1/7½	1/2¾
Louth	1/6	1/1½
Lowestoft	1/5½	1/1½
Luton	1/7	1/2¼
Macclesfield	1/7	1/2¼
Maidenhead	1/6	1/1½
Maidstone	1/6	1/1½
Malvern	1/6	1/1½
Manchester	1/7½	1/2¾
Manningtree	1/4½	1/0½
Mansfield	1/7½	1/2¾
March	1/4½	1/0½
Margate	1/5½	1/1¾
Market Harborough	1/6½	1/2
Matlock	1/6	1/1¾
Melton Constable	1/4	1/0
Melton Mowbray	1/6½	1/2
Merthyr	1/7½	1/2¾
Middlesbrough	1/7½	1/2¾
Middleton	1/7½	1/2¾
Middlewich	1/7	1/2¼
Milford Haven	1/6	1/1½
Morecambe	1/7½	1/2¾
Morley	1/7½	1/2¾
Mundesley	1/4½	1/0½
Nantwich	1/7	1/2¼
Nelson	1/7½	1/2¾
Newark-on-Trent	1/7	1/2¼
Newbury	1/5½	1/1½
Newcastle-on-Tyne	1/7½	1/2¾
Newcastle-u-Lyme	1/7½	1/2¾
New Forest	1/4½	1/0½
Newmarket	1/5½	1/1½
Newport, Mon.	1/7½	1/2¾
Newport Pagnell	1/5½	1/1½
Northampton	1/7½	1/2¾
Norwich	1/7½	1/2¾
Nottingham	1/7½	1/2¾
Nuneaton	1/7½	1/2¾
Oakham	1/6	1/1½
Oldham	1/7½	1/2¾
Ormskirk	1/7½	1/2¾
Oxford	1/7	1/2¼
Oxted	1/6	1/1½
Paignton	1/7	1/2¼
Peterborough	1/7	1/2¼
Plymouth	1/7½	1/2¾
Pontefract	1/7½	1/2¾
Pontypridd	1/7½	1/2¾
Port Talbot	1/7½	1/2¾
Portsmouth	1/7	1/2¼
Preston	1/7½	1/2¾
Pulborough	1/5½	1/1½
Ramsgate	1/5½	1/1¾
Reading	1/7	1/2¼
Redditch (Northern)	1/6½	1/2
Redhill	1/6	1/1½
Ripon	1/6	1/1½
Rochdale	1/7½	1/2¾
Rochester	1/6½	1/2
Rugby	1/7½	1/2¾
Saffron Walden	1/4½	1/0½
St. Albans	1/7	1/2¼
St. Helens	1/7½	1/2¾
St. Neots	1/4½	1/0½
Salisbury City	1/4½*	1/0¾
Salisbury Plain	1/5½*	1/1¾
Sawbridgeworth	1/6	1/1¾
Saxmundham	1/4	1/0
Scarborough	1/7	1/2¼
Scunthorpe	1/7½	1/2¾
Selby	1/7½	1/2¾
Sevenoaks	1/6	1/1½
Sheerness	1/5	1/0¾
Sheffield	1/7½	1/2¾
Shipley	1/7½	1/2¾
Shoeburyness	1/7	1/2¼
Shoreham	1/6½	1/2
Shrewsbury	1/6½	1/2
Sittingbourne	1/5½	1/1¾
Skegness	1/6½	1/2
Sleaford	1/6	1/1½
Slough	1/6½	1/2
Southampton	1/7	1/2¼
Southend-on-Sea	1/7	1/2¼
Southport	1/7½	1/2¾
South Shields	1/7½	1/2¾
Spalding	1/5½	1/1½
Stafford	1/7	1/2¼
Staines	1/6½	1/2
Stamford	1/6½	1/2
Stevenage	1/6	1/1½
Stockport	1/7½	1/2¾
Stockton-on-Tees	1/7½	1/2¾
Stoke-on-Trent	1/7½	1/2¾
Stourbridge	1/7	1/2¼
Stourport	1/7	1/2¼
Stowmarket	1/4½	1/0½
Stratford-on-Avon	1/6½	1/2
Stroud	1/6†	1/1½
Sunderland	1/7½	1/2¾
Sutton Coldfield	1/7½	1/2¾
Swaffham	1/4	1/0
Swanage	1/5½*	1/1½
Swansea	1/7½	1/2¾
Swindon	1/6*	1/1½
Tamworth	1/7	1/2¼
Taunton	1/5½	1/1½
Tenterden	1/5½	1/1½
Thames Haven	1/7½	1/2¾
Thetford	1/5	1/0¾
Thorpe Bay	1/7	1/2¼
Todmorden	1/7½	1/2¾
Tonbridge	1/6	1/1½
Torquay	1/7	1/2¼
Totnes	1/5½	1/1½
Trowbridge	1/4½*	1/0½
Truro	1/4½	1/0½
Tunbridge Wells	1/6	1/1½
Uppingham	1/6	1/1½
Uttoxeter	1/6	1/1½
Wakefield	1/7½	1/2¾
Walsall	1/7½	1/2¾
Walsden	1/7½	1/2¾
Walton-on-Naze	1/5½	1/1½
Ware	1/7	1/2¼
Warminster	1/4½*	1/0½
Warrington	1/7½	1/2¾
Warwick	1/7½	1/2¾
Wellingborough	1/7	1/2¼
Welwyn	1/6½	1/2
Welwyn Gar. City	1/7½	1/2¾
Wells (Norfolk)	1/4	1/0
West Bromwich	1/7½	1/2¾
Westcliff-on-Sea	1/7	1/2¼
Weston-super-Mare	1/6½	1/2
Weybridge	1/6½	1/2
Weymouth	1/5*	1/0¾
Whitby	1/6½	1/2
Whitstable	1/5½	1/1¾
Widnes	1/7½	1/2¾
Wigan	1/7½	1/2¾
Wigton	1/6	1/1½
Willington	1/7	1/2¼
Wilmslow	1/7½	1/2¾
Winchester	1/6	1/1½
Windermere	1/6	1/1½
Windsor	1/6½	1/2
Wisbech	1/5	1/0¾
Witham	1/5½	1/1¾
Woking	1/6	1/1½
Wokingham	1/5½	1/1¾
Wolverhampton	1/7½	1/2¾
Woodbridge	1/5	1/0¾
Worcester	1/7	1/2¼
Workington	1/6	1/1½
Worksop	1/7	1/2¼
Worthing	1/5½	1/1¾
Wrexham	1/7	1/2¼
Wroxham	1/5	1/0¾
Wycombe	1/6	1/1½
Wymondham	1/4½	1/0½
Yeovil	1/6	1/1½
York	1/7½	1/2¾

‡ Plasterers 1/10½.

† Painters ½d. less than other Craftsmen.

* Painters 1d. less than other Craftsmen.

¶ Tradesmen's Labourers 1/4½. Navvies and General Labourers 1/4.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

For Building Trade Wages in Scotland see page 272.

CURRENT PRICES FOR BUILDING WORK IN LONDON.

Note.—These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10 per cent. on the prime cost, without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts, and from 1s. 6d. per £100 Fire Insurance. The whole of the information given is copyright.

PRELIMINARIES.		£	s.	d.
Hoardings, with suitable gate, 8 ft. high	per ft. run	0	3	0
Steel scaffolding for brickwork	per sqre.	1	5	0
Steel scaffolding for stone building	,,	1	10	0
Steel gantry for stone building	per ft. run	2	10	0
Office, shed for cement and mess-room	say	75	0	0
EXCAVATOR.				
Digging, throwing out and filling into carts and carting to shoot, 5 ft. deep	per yd. cube	0	7	9
Add if stiff clay	,,	0	1	0
Add for every additional 5 ft.	,,	0	0	6
Add if in trenches	,,	0	0	9
Add to price of digging for breaking up concrete foundation and brickwork	,,	0	10	0
Return, fill and ram	,,	0	1	9
Fill into carts and cart away	,,	0	3	6
Planking and strutting to trenches	per ft. super	0	0	3½
Planking and strutting to sides of basement excavation next roadway	,,	0	1	4
Needling, flying and raking shores and removing after and carting away	per ft. cube	0	6	9
CONCRETOR.				
Portland cement and ballast concrete 1-6 in. foundations	per yd. cube	1	2	0
Add in underpinning in short lengths	,, ,,	0	6	0
Concrete in floors, ¾ in. aggregate, and sand, 1-2-4—				
4 in. thick	per yd. super	0	3	4
6 in. thick	,, ,,	0	4	8
Add if trowelled smooth	,, ,,	0	0	9
Add for hoisting, each floor	,, ,,	0	0	3
Concrete 1-2-4 in. beams and stanchions	per ft. cube	0	1	4
Concrete in lintols, with steel rod reinforcement each 4½ in. width and shuttering	,, ,,	0	4	0
1½ in. centering, with stout supports for concrete floors	per square	2	2	0
Do. to sides and soffites of beams	per ft. super	0	0	8
Do. to sides of stanchions	,, ,,	0	0	7
Steel rod reinforcement under ⅝ in. diameter, cut, bent and placed in position	per cwt.	1	8	0
Do. do. over ⅝ in. diameter	,,	1	5	0
BRICKWORK.				
Reduced to 1½ brick in flettons, lime mortar	per rod	26	0	0
Add for 2nd hard stocks	,,	8	0	0
Add for Blue Staffordshire	,,	22	0	0
Add to above if in 1-4 cement	,,	0	15	0
Add if in backing to stonework	,,	1	5	0
Add if in underpinning in cement	,,	4	10	0
Add if above 40 ft. to 60 ft. high	,,	2	0	0
SUNDRIES.				
Damp course in double course of slates, breaking joint	per ft. super	0	0	11
Vertical do. do.	,,	0	1	2
Bitumastic	,,	0	0	5
Lead core	,,	0	0	10
Cut, tooth and bond new to old brickwork	,,	0	1	0
Rake out joints of brickwork	,,	0	0	1
Leave chase for concrete floor	per ft. run	0	0	2
Cut chase 4½ in. deep for concrete floor	,,	0	1	2
Leave chase for vertical pipe	,,	0	0	4
Cut chase for vertical pipe	,,	0	1	4
Rake out joint for flashings and point	,,	0	0	2
Do. stepped do.	,,	0	0	4
Do. for asphalt skirting	,,	0	0	2
Build in ends of timbers	each	0	0	4
Do. steel joists up to 12 in. deep	,,	0	0	6
Do. step and make good facings	,,	0	1	6
Set and flaunch chimney pots	,,	0	7	6
Render fire openings	,,	0	2	0
Bed and point door frames one side	,,	0	3	0
Do. both sides	,,	0	4	6
Do. window frames, one side	,,	0	4	0
Setting only register grate	,,	1	0	0
Do. interior hearths and mantles	,,	1	15	0
Do. kitchen range, large	,,	5	0	0
Fix air brick and form flue	,,	0	2	0
Cut holes for pipes and make good facings, 9 in. wall	,,	0	2	0
Do. do. 13½ in. wall	,,	0	2	6
Do. large pipes and do. 9 in. wall	,,	0	3	0
Do. do. 13½ in. wall	,,	0	3	6
FACINGS.				
Extra for facings in Flemish bond for each 10s. per thousand over the price of Flettons	per ft. super	0		1½
Pointing facings to approval	,,	0		3
Arches extra over Flettons in stocks	,,	0		8
Do. in reds	,,	1		0
Do rubbed and gauged in putty	,,	5		9

PARTITIONS.		£	s.	d.
2 in. breeze slab partitions in cement	per yd. super		4	0
3 in. do. do.	,,		4	6
2 in. hollow-tile do.	,,		4	9
3 in. do. do.	,,		5	6
PAVING.				
1 in. granolithic paving gauged 5—2	per yd. super		2	7
1½ in. do. do.	,,		2	11
1 in. × 6 in. covered skirting	per ft. run		0	10
ASPHALT (NATURAL).				
½ in. horizontal damp course	per ft. super		0	6
⅝ in. horizontal damp course	,,		0	8
¾ in. vertical do. in two layers	per yd. super		9	6
¾ in. in flats, two layers	,,		6	0
Angle fillet	per ft. run		0	3
6 in. skirting and angle fillet and jointing top edge	,,		1	0
DRAINAGE.				
Excavate, trench for drain and throw out, return, fill and ram, and including any planking and strutting required, and cart away surplus earth per ft. run	1 ft. deep	0	5	
	2 ft. deep	0	10	
	3 ft. deep	1	3	
	4 ft. deep	1	8	
	5 ft. deep	4	2	
	6 ft. deep	5	0	
	7 ft. deep	5	10	
	8 ft. deep	6	8	
4 in. best quality glazed stoneware drain pipe, socketed joints, yarn and neat cement, on and including cement concrete bed, 18 in. wide and 6 in. thick, and benched up on each side of pipe	per ft. run		2	4
6 in. do. do. do. but concrete bed 20 in. and 6 in. thick	,,		3	0
9 in. do. do. do. but concrete bed 23 in. wide and 6 in. thick	,,		4	11
Extra for 4 in. bends	each		2	6
Do. 6 in. ,,	,,		3	6
Do. 9 in. ,,	,,		5	6
Extra for 4 in. junctions	,,		2	9
Do. 6 in. ,,	,,		3	9
Do. 9 in. ,,	,,		6	0
4 in. stoneware gully, encased in concrete and making good granolithic paving	,,		13	0
6 in. do.	,,		14	0
9 in. do.	,,		18	6
4 in. stoneware interceptor, and surround with concrete	,,	1	5	0
6 in. do.	,,	1	10	0
9 in. do.	,,	2	10	0
IRON DRAINS.				
4 in. C.I. drain and laying and jointing in molten lead	per ft. run		3	4
6 in. do. do.	,,		5	0
Extra for 4 in. bends	each		10	0
Extra for 6 in. bends	,,		18	0
Extra for 4 in. junctions	,,		17	6
Extra for 6 in. junctions	,,		30	0
MASON.				
Bath stone and all labour, fixed	per ft. cube		10	9
Portland stone and all labour, fixed	,, ,,		17	9
York stone templates, fixed	,, ,,		12	6
York stone steps, fixed	,, ,,		16	0
York stone cills, fixed	,, ,,	1	2	0
SLATER.				
24 × 12 Bangor slates laid to 3 in. lap secured with zinc nails	per square	3	18	6
20 × 10 do.	,,	3	13	6
16 × 8 do.	,,	3	11	6
Extra to eaves course	per ft. run		0	9
Extra to top edge and square abutments	,,		0	4½
Extra to verge and labour only, bedding and pointing	,,		0	7½
Raking, cutting and waste	,,		0	7
Half-round red ridge tile	,,		1	2
Half-round blue ridge tile	,,		1	8
Fixing only soakers	per dozen		0	9
Red hand-made sand-faced tiles laid to 4 in. gauge, nailed every fifth course with galvanised iron nails	per square	3	0	0
Extra to eaves course	per ft. run		0	5
Extra to top edge and square abutments	,, ,,		0	3½
Extra to verge and bed and point	,, ,,		0	11
Half-round ridge	,, ,,		1	4
Bonnet hips, including cutting and waste (both sides)	,, ,,		3	8
Valley tiles, including cutting and waste (both sides)	,, ,,		3	6
Fixing only soakers	per dozen		0	9

CURRENT PRICES FOR BUILDING WORK IN LONDON.—continued.

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per ft. cube	4	0
Do. joints	,, ,,	4	6
Do. roofs, etc.	,, ,,	5	3
Do. trusses	,, ,,	6	9

		¾in.	1in.	1¼in.
Deal rough close boarding	per sq.	32/-	38/-	47/-
Battens for slating	,,	10/-	11/-	12/-
Centre for arches	per ft. super			1 6
Gutter boards and bearer	,, ,,			1 0

FLOORING.

		¾in.	1in.	1¼in.	1½in.
Deal edges shot	per sq.	—	41/-	49/-	58/-
Do. tongued and grooved	,,	—	46/-	55/-	67/-
Do. matchings	,,	42/-	47/6	—	—
Moulded skirtings, including backings and grounds	per ft. super	1/4	1/7	1/9	2/3
Mitres	each	-/6	-/8	-/9	1/-
Stop ends	,,	-/3	-/4	-/4	-/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half in. moulded sashes	per ft. super	1	9
Two in. do. do.	,, ,,	2	0
Add for fitting and fixing	,, ,,	0	2
Deal cased frames, 1 in. linings, 1¼ in. pulley and stiles, 2 in. moulded sashes, in squares, hardwood cill, double hung with pulleys, lines and weights, average size	,, ,,	3	3

DOORS.

		1½in.	1¾in.	2in.
Two-panel square framed	per ft. super	2 1	2 3	2 5
Four-panel do.	,, ,,	2 4	2 6	2 9
Two-panel moulded both sides	,, ,,	2 6	2 9	2 11
Four-panel do. do.	,, ,,	2 9	2 11	3 2

		£	s.	d.
Flush doors. 1½ in. to 2 in. finished thickness skeleton core, covered each side with Columbian pine ply, solid pine edging, 2 ft. 6 in. by 6 ft. 6 in.	each	1	15	0
Do., covered with Gaboon mahogany ply, solid mahogany edging, 2 ft. 6 in. by 6 ft. 6 in.	,,	2	0	0
Solid core, all as first item	,,	2	0	0
Solid core, all as second item	,,	2	5	0
Shaped peep holes, 4 sided	,,	0	5	0
Hexagonal holes	,,	0	6	0
Circular holes	,,	0	7	0

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per ft. cube	12	0
Hardwood do. do.	,, ,,	36	0

		1in.	1¼in.	1½in.
Plain deal jamb linings, framed	per ft. super	1 7	1 8	1 11
Deal shelves and bearers	,, ,,	1 2	1 4	1 7
Add if cross-tongued	,, ,,	-/2	-/2	-/2
Deal window board, tongued to oak cill and bearers	,, ,,	1 6	1 9	2 0

		s.	d.
Deal moulding, tongued and grooved to window board	per ft. run	0	6

SUNDRIES.

		s.	d.
Deal architrave, including mitres per sectional inch.	per ft. run	0	1
Glazing beads, deal fixed	,, ,,	0	2
Do. fixed with brass screws and cups	,, ,,	0	4
Rebate	,, ,,	0	0½
Groove	,, ,,	0	0½
Notching	,, ,,	0	2
Tongued and grooved angle	,, ,,	0	3½
Rounded heel and hollow	,, ,,	0	2½

STAIRCASES.

		1in.	1¼in.	1½in.	2in.
Deal treads and risers on and including rough brackets	per ft. super	2/-	2/3	2/8	—
Deal strings, wrot and framed	,, ,,	—	—	2/2	2/8
Housings	each				0 9
Mahogany handrail, average 3 in. x 3 in.	per ft. run				5 6
Add if ramped	,, ,,				11 0
Add if wreathed	,, ,,				1 2 0

FIXING ONLY IRONMONGERY.

	s.	d.
Barrel bolts	0	8
Sash fasteners	1	0
Casement fasteners	1	2
Casement stays	1	2
Flush bolts	1	6
Cupboard locks	1	6
Rim locks and furniture	2	0
Mortice locks and furniture	4	0
Floor springs, including oil	20	0
Overhead springs	5	0

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	19	6
Compound girders	,,	22	6
Stanchions	,,	24	3
Roofwork	,,	29	6

RAINWATER GOODS.

		3 in.	4 in.	5 in.	6 in.
Half-round eaves gutters and fixing	per ft. run	1/3	1/4	1/10	1/11
Ogee do. do.	,, ,,	1/5	1/6	2/1	2/9
R.W. pipe and fixing	,, ,,	1/7	2/1	—	—
Extra for shoes and bends	each	3/3	4/6	—	—
Do. stopped ends	,,	1/3	1/7	2/-	3/-
Do. nozzles and angles	,,	2/7	3/-	4/2	4/8

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	38	0
Do. in flats	,,	36	6
Extra labour and solder in cesspools	each	6	0
Welt joint	per ft. run	0	4
Soldered seam	,, ,,	1	6
Copper nailing—close	,, ,,	0	3
Do. do. open	,, ,,	0	2
Soldered dots	each	2	0
Bossed ends to rolls	,,	0	6

	½in.	¾in.	1in.	1¼in.	1½in.	2in.	4in.
Lead overflow per ft. run	-/8½	1/-	1/6	1/9	2/1	2/9	—
,, service ,,	1/2	1/9	2/8	3/6	4/-	5/3	—
,, soil ,,	—	—	—	—	—	—	6/-
Bends in pipe each	—	—	—	—	1/9	2/-	5/6
Wiped solder joints ,,	1/9	2/3	2/6	3/-	3/4	4/-	5/9
Lead traps and cleaning screws ,,	—	—	—	6/6	9/6	—	—
Stopcocks and joints ,,	11/-	14/-	18/-	—	—	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yd. super	2	0
Do. narrow widths	per ft. super	0	4
Do. and set with Sirapite	per yd. super	2	3
Do. narrow widths	per ft. super	0	4
Do. and set with Keenes	per yd. super	3	0
Do. narrow widths	per ft. super	0	5½
Add sawn lathing	per yd. super	1	4
Add metal lathing (not including hangers or runners for suspended ceilings)	,, ,,	2	4
Portland cement screed	,, ,,	1	7
Do. plain face	,, ,,	3	3
Mouldings in plaster	per 1 in. girth	0	1½

GLAZIER.

		s.	d.
24 oz. sheet	per ft. super	0	7½
26 oz. sheet	,, ,,	0	8
24 oz. Obscured sheet	,, ,,	0	8¾
Double Cathedral	,, ,,	0	9¼
Majestic	,, ,,	0	10
Flemish	,, ,,	0	10
Pinhead Morocco	,, ,,	0	10
¼ in. rough rolled or cast plate	,, ,,	0	10¾
¼ in. wired cast plate	,, ,,	1	1¼

PAINTER.

		s.	d.
Preparing and distempering, two coats	per yd. super	0	7½
Knotting and priming	,, ,,	0	7
Plain painting, one coat	,, ,,	0	9
Do. two coats	,, ,,	1	2
Do. three coats	,, ,,	1	9
Do. four coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing, twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per ft. super	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece	2/- to 4/-	

PRICES CURRENT OF MATERIALS*

Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads. £ s. d.
Best Stocks 4 15 0
Second Hard Stocks 4 8 0
Per 1,000. Delivered at London Goods Stations.

2½ in. Phorpres.	King's Cross Station. per 1,000. s. d.	To sites in W.C. District. per 1,000. s. d.
Pressed bricks	46 3	50 6
Cellular bricks	46 3	50 6
Keyed bricks	48 3	52 6
Cellular Keyed bricks	48 3	52 6
Rustic bricks	*66 3	*70 6
Cellular Rustic bricks	*66 3	*70 6
Single Bullnose	64 3	68 6
White bricks	*66 3	*70 6
Sandfaced bricks	—	75 6

* Subject to a special discount of 2s. per 1,000 ft. accompanied by order for Pressed.

	£ s. d.
White Midhurst Facing Bricks (delivered London site)	3 12 6
Best blue Pressed Staffs	8 6 6
Do. Bullnose	8 16 6
Blue Wire Cuts	7 4 0

Best Stourbridge Fire Brick :—

£ s. d.		£ s. d.
2½ in. 7 15 0	3 in.	8 15 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher.	24 0 0	D'ble Str'tch'rs .. 32 10 0 D'ble Headers .... 29 10 0 One side & two ends 33 10 0
Headers	23 10 0	Twosides&one end 34 10 0
Quoins, Bullnose and 4½in. Flats	30 10 0	Splays and Squints 31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPES" HOLLOW PARTITION BLOCKS.

2" per yd. sup. ..	2 3	3" per yd. sup. ..	2 9
2½" " "	2 6	4" " "	3 1

CLINKER CONCRETE.

2" per yd. sup. ..	1 6	3" per yd. sup. ..	2 0
2½" " "	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup. ..	3 0	3" per yd. sup. ..	3 8
2½" " "	3 6	4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3" ..	3 0
12" x 9" x 2½" ..	2 9	12" x 9" x 4" ..	3 9

Per yard super d/d. Free on site, London.

	s. d.	
Thames Ballast.	7 3 per yd.	delivered 2 miles radius Paddington.
Pit Ballast	6 3 " "	
Pit Sand	7 9 " "	
Washed Sand	8 3 " "	
¾in. Shingle	7 3 " "	
¾in. Broken Brick	11 3 " "	
Pan Breeze	8 3 " "	

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :—

	£ s. d.
4 ton loads and upwards site ..... Per ton	2 2 0
1 ton to 4 tons site	2 5 0
Alongside Vauxhall in 80-ton lots	1 19 6
"Ferrocrete" Rapid Hardening Cement :—	
4 ton loads and upwards site	2 8 0
1 ton to 4 tons site	2 11 0
Alongside Vauxhall in 80-ton lots	2 5 6

Stores in Reserved Bins at Works 1/6 ton extra.

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

"Aquacrete" Water Repellent, "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.

"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site 3 9 0

"Colorcrete," not rapid-hardening, in 1-cwt. paper bags free (non-returnable), according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable)

1 tons and upwards site	8 15 0
Super Cement (Waterproof) paper bags free	3 12 0
Roman Cement £6 15 Keene's Cement, White	6 0 0
Parian Cement £6 0 " " Pink	5 12 6

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink ..	3 2 0	Sirapite, Coarse	3 10 0
" White ..	3 12 6	" Finish ..	3 18 0
Pioneer	3 10 6		
Super Carbo	2 7 6	4-ton loads and over London Area, paper bags free.	
Carbo Setting ..	2 12 6		
Best Ground Blue Lias Lime ..	1 17 6	Grey Stone Lime	2 2 0
		Chalk Lime ..	2 2 0
Granite Chippings	1 12 0	Hair per cwt. ..	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in sacks 37s. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 2 10½

BEER STONE—RANDOM BLOCK—

Free on rail at Seaton Station .. per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. "	3 1½

Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—

	s. d.
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 5
Do. do. delivered on road waggons as above stations, per ft. cube	4 6

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft.

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	14 0
Sawn two sides	22 6

HOPTON-WOOD STONE—

Sawn three or four sides	27 9

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station, London

6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft. super	5 0
6 in. rubbed two sides, ditto .. "	5 6
3 in. sawn two sides slabs (random sizes). "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) "	1 6½
1½ in. to 2 in., ditto "	1 3½

HARD YORK—

Delivered at any Goods Station, London.

Scrappled random blocks ..... per ft. cube	6 3
6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft. super	5 1½
6 in. rubbed two sides, ditto .. "	6 1½
4 in. sawn two sides slabs (random sizes) "	3 1½
3 in. ditto ditto ..... "	2 5
2 in. self-faced random flags .. Per yd. super	7 6

CAST STONE.

Delivered in London are in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK.

	£ s. d.
Average price for prime quality.	
Dry Austrian Wainscot, per ft. cube	0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube ..... 10 0 to	0 12 6
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube, ... 12 6 to	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 6
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. ..... 4 7 0 to	5 10 0

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 ×11	£26 10	3 × 6	£22 10
4 × 9	26 10	3 ×11	26 10
4 × 8	24 10	2 ×11	26 10
4 × 7	24 10	3 × 9	23 10
3 × 8	22 10	2½× 9	23 10
3 × 7	22 10	3 × 4½.....	22 0
2½× 7	22 10	3 × 4	22 0

PLANED BOARDS.

1×11.	£26 10	1×9	£25 0

PLAIN EDGE FLOORING.

Inches.	Per sq.	Inches.	Per sq.
¾	17/-	1¼	28/-
⅝	20/-	1½	35/-
1.	22/-		

HUDDERSFIELD Building Society

Experience has shown that the arrangements made by the Huddersfield to assist occupier borrowers have given the utmost satisfaction, and the service rendered has been greatly appreciated by builders' clients.

Write for information to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2, or to the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST—A HOUSE IS BEST

TONGUED AND GROOVED FLOORING.

Inches.	Per sq.
1	22/6
1¼	29/-
1½	36/-

Ins. BATTENS. s. d.
¾×2 per 100 ft. 2 6

MATCHING (BEST)

Inches.	Per sq.
¾	18/-
¾	20/-
1	26/-

SAWN LATHS. s. d.
Per bundle 2 6

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12 ..	31 5 0	18 by 10 ..	16 10 0
22 by 12 ..	26 5 0	18 by 9	14 17 6
22 by 11 ..	23 12 6	16 by 10 ..	14 7 6
20 by 12 ..	23 2 0	16 by 8	11 6 0
20 by 10 ..	20 15 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district.	£4 2 6
ditto hand-made ditto	4 17 6
Ornamental ditto	5 2 6
Hip and valley tiles (per dozen) { Hand-made	0 8 6
Hip and valley tiles (per dozen) { Machine-made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£16 10 0
Plain Compound Girders	19 10 0
" " Stanchions	21 5 0
In Roof Work	25 0 0

MILD STEEL ROUNDS.—To London Stations, prt ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	17 12 6	⅞ in. to ½ in...	16 2 6
⅜ in.	16 12 6	⅝ in. to 2¾ in.	15 12 6

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £10 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes. and Tubulars. Sizes. ⅛in. to ⅜in. %	Standard Wrot. Mild Steel Tubes. and Tubulars. Sizes. ½in. to 2in. %	Standard Flanges. Sizes. ½in. to 2in. %	Standard Fittings. %
Gas	60	65	62½	58½
Water	57	62½	62½	55
Steam	53¾	58¾	51½	50
Gal. gas	50	55	51½	48¾
Galv. water	45	50	43¾	43¾
Galv. steam	38¾	43¾	38¾	40

C.I. HALF-ROUND GUTTERS—London Price ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/9½	1/8	7d.
3½ in.	2/1	2/-	8½d.
4 in.	2/1	2/-	8½d.
4½ in.	2/2½	2/1	9d.
5 in.	2/4½	2/4	10d.

O.G. GUTTERS.

3 in.	2/1	2/-	8½d.
3½ in.	2/3½	2/2	9½d.
4 in.	2/5	2/4	10½d.
4½ in.	2/6	2/5	1/0½
5 in.	2/10	2/9	1/2½

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches stock angles.
2 in.	2/8½	1/8	2/5½
2½ in.	2/9½	1/11	2/11½
3 in.	3/8	2/4½	3/7½
3½ in.	4/1	2/10½	4/1½
4 in.	4/9½	3/5	5/-

Less 20 per cent. trade discount.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock,

	Pipe. s. d.	Bends, stock angles. s. d.	Branches. stock angles. s. d.
2 in. per yd. in 6 fts. ..	3 5	2 5	2 11
2½ in. " ..	3 10	2 8	3 8
3 in.	4 2	2 11	4 4
3½ in.	4 7	3 8	5 0
4 in. "	5 1	4 0	5 10

L.C.C. COATED DRAIN PIPES.—London Prices, ex Stock,

	Pipe. s. d.	Bends, stock angle. s. d.	Branches. stock angles. s. d.
3 in. per yd. in 9 ft. lengths	4 9	5 4	8 9
4 in. " cwt. qr. lbs. 1 1 20 ..	6 9	6 3	11 0
5 in. " 1 2 22 ..	8 4	11 0	16 11
6 in. " 2 0 6 ..	10 0	12 11	21 3

Gaskin for jointing 45/- per cwt.

	Per ton. £ s. d.	London. £ s. d.
IRON—		
Common Bars	12 15 0 ..	13 15 0
Staffordshire Crown Bars—		
Good merchant quality ..	14 10 0 to	16 0 0
Staffordshire Marked Bars ..	18 0 0 ..	19 0 0
Mild Steel Bars	12 18 0 ..	13 18 0
Steel Bars, Ferro-Concrete quality, basic price	14 8 0 ..	15 8 0
Hoop iron, basic prices	14 8 0 ..	15 8 0
" Galvanised	24 8 0 ..	26 8 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—*(contd)*

IRON— Per ton in London.

	£ s. d.	£ s. d.
Soft Steel Sheets, Black—		
Ordinary sizes, to 20 g.	16 5 0	17 5 0
,, ,, 24 g.	17 5 0	18 5 0
,, ,, 26 g.	18 5 0	19 5 0
Sheets, Flat, Best Soft Steel, C. R. and C.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	17 10 0	18 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	19 10 0	20 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 15 0	20 15 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 5 0	22 15 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	21 5 0	23 5 0
Sheets, Galvanised, Flat, Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	19 15 0	22 15 0
Best Soft Steel Sheets, 22 g. and 24 g.	20 15 0	22 5 0
Best Soft Steel Sheets, 26 g.	22 5 0	23 5 0
Cut Nails, 3 in. to 6 in.	19 10 0	21 10 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER

		s. d.
Seamless Copper tubes (basis)	per lb.	1 1
Strong sheet	,,	1 3
Thin	,,	1 4
Copper nails	,,	1 3
Copper wire	,,	1 3

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
29/- 45/- per doz.

CHROMIUM PLATED TOILET SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
40/- 59/- per doz.

SCREW DOWN STOP COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
31/- 44/6 75/- 175/- 250/- 396/- per doz.

SCREW DOWN STOP COCKS WITH TWO UNIONS FOR LEAD.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
42/6 65/- 102/- 195/- 210/- 510/- per doz.

DOUBLE NUT BOILER VCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 9/- 14/- 24/- 37/6 54/- per doz.

HEAVY CROYDON BALL VALVES.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
33/6 55/6 85/- 165/- 237/- per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
9/- 11/- 16/6 29/- 42/- 45/- per doz.

BRASS FERRULES OF SLEEVES.

1½ in. 2 in. 3 in. 3½ in. 4 in.
9/6 11/6 20/6 26/- 37/- per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

1¼ in. 1½ in. 2 in. 3 in.
8 lb. Lead P... 17/6 23/- 32/6 66/6 per doz.
8 lb. Lead S... 21/6 27/6 39/6 73/- per doz.

SOLDER.—Plumbers', 1/1, Tinmen's, 1/3, Blowpipe, 1/5 per lb.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in pipes per gallon	0 2 7
,, ,, ,, in barrels ,,	0 2 9
,, ,, ,, in drums ,,	0 2 11
Boiled ,, ,, in barrels ,,	0 3 0
,, ,, ,, in drums ,,	0 3 2
Turpentine, in barrels ,,	0 3 2
,, in drums (10 gals.) ,,	0 3 4
Genuine Ground English White Lead, per ton	49 0 0

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Pauls," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered 68 0 0
Red Lead, Dry (packages extra) .. per ton 38 0 0
Best Linseed Oil Putty ..... per cwt. 0 14 9
Size. XD quality ..... fkn. 0 3 6

VARNISHES, &c.

	Per gallon.
Oak Varnish ..... Outside	0 14 0
Fine do. ,,	0 16 0
Fine Copal ,,	0 18 0
Pale Copal ,,	1 0 0
Pale Opal Carriage ,,	1 4 0
Best do. ,,	1 12 0
Floor Varnish ..... Inside	0 18 0
Fine Pale Paper ,,	0 18 0
Fine Copal Cabinet ,,	1 2 0
Fine Copal Flatting ,,	1 0 0
Hard Drying Oak ,,	0 18 0
Fine Hard Drying Oak ,,	0 19 6
Fine Copal Varnish ,,	1 0 6
Pale do. ,,	1 12 0
Best do. ,,	1 2 6
Best Japan Gold Size	1 12 6
Best Black Japan	0 10 0
Oak and Mahogany Stain (water)	0 12 0
Brunswick Black	0 7 6
Berlin Black	0 14 0
Knotting (patent)	0 15 0
French and Brush Polish	0 12 0
Liquid Dryers in Terebene	0 9 0
Cuirass Black Enamel	0 7 0

THE SCOTTISH BUILDER

NEW BUILDINGS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

ABERDEEN.—SCHOOL.—Plans are to be prepared for a new nursery school at Hilton, the architect being Mr. J. A. Ogg Allan, Union-street.

ABERDEEN.—CENTRE.—Plans to be prepared by Mr. Albert Gardner, Broad-street, The Castlegate, for a new nursery and child welfare centre at Hilton.

AIRDRIE.—FACTORY.—The garage of the Scottish Motor Traction Co., Ltd., Carlisle-road, is to be taken over by the Air Ministry and reconstructed for use as a factory for the assembly of aircraft ports.

ALEXANDRIA.—HALLS.—Plans in hand for new suite and halls for the Salvation Army, the architect being Mr. James C. Vint, Queen Victoria-street, London, E.C.

ALLOA.—HOUSING.—The T.C. has accepted tenders for 172 houses on a site in Whinsroad. The houses will be of three-, four-, five- and six-apartment, and cost £55,000.

DALBEATTIE.—EXTENSIONS.—From plans by their own architects, the Council of Stewartry intend to carry out at £25,000 a scheme of alterations and extensions to the Dalbeattie Academy.

EDINBURGH.—BUILDING.—The Dean of Guild Court has passed the following plans: Messrs. MacTaggart and Mickel, Ltd., Glasgow, 108 houses, Broomhouse-road, Corstorphine, and Messrs. Dayanite, Ltd., alterations to premises at 9-16, Beaverbank-place.

EDINBURGH. — BUILDING.—The Corporation E.C. has approved alterations and additions to the Trinity Academy, at £44,000, and also sketch plans for a new cooking centre on the site of Leith Offices, at £21,000. The Council have decided to proceed with a new intermediate school at Pilton. The architect is Mr. J. S. Johnstone, 47, Charlotte-street, Leith.

FALKIRK.—CENTRE.—The Dean of Guild Court has granted permission to Messrs. Falkirk Car Park, Ltd., 9, Princes-street, to construct a new shopping centre in High-street and Cockburn-street, at £20,000.

GLASGOW.—BUILDING.—Plans are to be prepared by Mr. James Miller, architect, 15, Blythswood-square, West George-street, Glasgow, for new blocks of buildings for the Glasgow Royal Infirmary, Castle-street.

GLASGOW. — EXTENSIONS, ETC.—The T.C. are to proceed immediately with the extension of the Gartloch Mental Hospital, to provide accommodation for an additional 300 patients. The Council are also to proceed with a further 80 houses at Boydstone-road housing scheme, Carnwadric.

HAWICK. — PREMISES.—Messrs. Montague Burton, Ltd., clothiers, Leeds, are to erect new shop premises in the High-street. Plans will be prepared by the company's own architectural staff.

LESMAHAGOW.—HOUSES.—Plans are in hand for 52 three-, 34 four- and 16 five-apartment houses for the Scottish Special Area Association, Ltd., 95, Shandwick-place, Edinburgh.

LOCHGELLY.—HOUSES.—The Corporation is to erect 100 houses. Mr. Alexander Lumsden is the Burgh Architect.

NEWHILL.—EXTENSIONS.—Plans are to be prepared for extensions to the public school by Major John Wood, architect, Bank-street, Cullen.

OBAN.—HALLS.—The architect for the new drill halls and offices at Drimgarvie, is Mr. Lake Falconer, Albany-street.

ROXBURGH. — HOUSES. — The Housing Committee has agreed to the spending of £19,540 for the provision of 16 houses at Denholm, 20 houses at Newton St. Boswells.

RUTHERGLEN. — HOUSES.—The Dean of Guild Court has granted permission to the

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from April 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/8	1/7½	1/7	1/6½	1/6	1/5½
Labourers	1/3	1/2¾	1/2¼	1/2	1/1½	1/1¼

Aberdeen	A	East Fife (embraced by a line from Largo to Kingsbarns and eastward to the Coast)	B	Hamilton	A	Perthshire	A
Ayrshire	A			Inverness	*	Peterhead	A
Banff	B			Inverurie	A¹	Renfrewshire	A
Berwickshire	A²			Kincardineshire	A²	Rothesay	A
Bridge of Allan	A	East Lothian	A	Kinross-shire	A	Roxburghshire	A
Broughty Ferry	A	Edinburgh	A	Lanarkshire	A	St. Andrews	A
Clackmannanshire	A	Fifeshire (with the exceptions of towns in East Fife which are under Grade B)	A	Midlothian	A	Selkirkshire	A
Doune	A			Monifieth	A	Stewartry	A¹
Dunblane	A			Moray and Nairn	B	Stirlingshire	A
Dumbartonshire	A	Forfarshire	A	Newport	A	Stornoway	A
Dumfriesshire	A¹	Glasgow	A	Peeblesshire	A²	Tayport	A
Dundee	A	Greenock	A	Perth	A	West Lothian	A
Dunoon	A						

* This town has its own rates: Masons, 1/6; Carpenters, 1/6; Slaters, 1/6; Plumbers, 1/6½; Plasterers, 1/7, but 1/8 is paid owing to the scarcity at present; Painters, 1/6; and Labourers, 1/1½.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 268.

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY AND SELECTED GLAZING QUALITY.

	per ft. super		per ft. super.
18 oz. O.Q.	2¼d.	32 oz. O.Q.	5½d.
18 ,, S.Q.	2⅝d.	32 ,, S.Q.	6¼d.
24 ,, O.Q.	3⅛d.	Obscured Sheet, 18 oz.	3d.
24 ,, S.Q.	3⅝d.	,, ,, 24 ,,	4¼d.
26 ,, O.Q.	3⅝d.	Fluted 21 ,,	9d.
26 ,, S.Q.	4¼d.	Em'lld 18 oz., 5½d., 24oz.	6⅝d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft.
Rolled plate, ¼ in.	5⅛d.
Rough cast double rolled, 7/32 in.	6⅛d.
Rough cast double rolled, ⅛ in.	6⅜d.
Figured rolled, etc., white	6½d.
Figured rolled, etc., tinted	9½d.
Rolled Sheet	6d.
White rolled cathedral	6d.
Tinted rolled cathedral	8½d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
"Calores" Sheet, 21 oz.	2 6
,, 32 oz.	4 0
,, Cast, ¼ in. thick	0 10
,, ,, 7/32 in. thick	1 0
,, ,, ⅛ in. thick	1 2

"VITA" GLASS.

Clearsheet—not exceeding 1 foot	1 0
,, ,, 2 feet	1 3
,, over 2 feet.	1 9
Polished plate not exceeding 1 foot	1 6
,, ,, 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
,, larger size	1 6
Horticultural Sheet and Cathedral "Vita" Glass Sizes up to 24 inches by 18 inches or not exceeding 3 feet.	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide.	2 6

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	22 10 0
Pipe in coils	22 0 0
Soil pipe	27 10 0
Compo pipe	29 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton £12 5 0

Lanarkshire C.C. to erect 22 houses at Gallowflatt.

SCOTLAND. — HOUSES. — The Scottish Special Areas Housing Association, Ltd., Edinburgh, are to build 1,000 houses in Motherwell, and on various sites in Ayrshire and Dumbartonshire, at £500,000.

STIRLING. — HOUSES.—The T.C. are to proceed immediately with 32 houses at Linden-avenue.

STIRLING.—HOUSES.—Plans in hand for 48 houses in Raploch-road, the architect being Mr. David B. Marrs, Municipal-buildings.

TAIN.—ACADEMY.—Ross and Cromarty Property and Works Committee has decided to reverse a decision to invite designs from outside architects for the proposed new academy at Tain. The committee decided to get designs only from Messrs. Matheson, Dingwall, the County Architects.

WHITEHILLS.—ADDITIONS.—Plans are to be prepared by Major John Wood, architect, Bank-street, Cullen, for additions to the public school.

WIGTOWNSHIRE. — RECONSTRUCTION. — The County E.C. has decided to reconstruct the St. Joseph's Roman Catholic school, Stranraer, at approximately £4,500.

TENDERS ACCEPTED

Dumbarton.—100 houses. James Thomson, architect, 220, West Regent-st., Blythswood, Glasgow :—Excavation, brick and mason — *MacTaggart, Nickel, Ltd., Glasgow.

Dumbartonshire.—Extension to the drapery warehouse at Alexandria for the Vale of Leven Equitable Co-operative Society, Ltd. Cornelius Armour, architect and quantity surveyor, 95, Morrison-st., Tradeston, Glasgow :—Excavation, brick and mason—*Scottish Wholesale Co-operative Society, Ltd., Shieldhall.

Dunoon. — Hotel and other apartments at the West Bay. A. MacGregor Mitchell, architect and quantity surveyor, 131, West Regent-st., Blythswood, Glasgow :—Excavating, brick and building—*R. Rodgerson & Co., Ltd., Scotstoun. Joiner, carpenter and ironmongery—*A. D. Ferguson, Dunoon. Plumbers, sanitary engineers—*J. Irving & Sons, Queen's Park. Electrical fittings and installation, etc.—*D. MacInnes & Sons, Glasgow. Plaster, lathing—*G. Rome & Co. (Glasgow), Ltd., Glasgow. Glazing—*R. Findley Milligan, Glasgow. Sound reinforcing—*Cowan and Sons, Ltd., Glasgow. Steel construction—*Fleming Bros. & Co., Ltd., Glasgow. Tile, terrazzo, marble—*Toffolo, Jackson & Co., Ltd., Glasgow. Ventilation installation work and installation—*Climax Ventilating Co., Ltd., Glasgow. Lantern lights and window works, etc.—*Williams & Williams, Ltd., Chester. Heating engineering and installation, etc.—*J. Coombe & Son, Ltd., Glasgow. Lift installation, etc.—*Binnies Lifts, Ltd., London.

Glasgow.—Third contract for the Shieldhall Sewage Purification Works, for T.C. Mr. Thomas Somers, City Engineer :—*Francis I. C. Lilley, Bellahouston, £99,112 9s. 10d.

Glasgow.—Alterations and extensions to the Dalbeth Convent at Parkhead. Mr. Thomas Cordiner, architect, Blythswood-chambs., West George-st., Blythswood-sq.—Excavation, brick and mason—*R. London & Co., Ltd., Glasgow.

Glasgow.—Gower-st. bridge scheme, for T.C. Mr. Thomas Somers, City Engineer, George-sq. :—Mason and building—*Wm. Taylor & Sons (Glasgow), Ltd., Glasgow, £3,714. Steel construction—*T. & W. MacLellan, Ltd., Glasgow. £1,959.

Glasgow.—Swimming baths at the Hamilton-hill R.C. school. Weddell & Inglis, architects. Trussed Concrete Steel Co., Ltd., reinforced concrete engineers :—*Wilson Bros., Glasgow.

Scotland (H.M.O.W.).—Tenders accepted during week ending January 24 :—Automatic Telephone Exchange, Bannockburn—erection, Patrick Monaghan, Kirk-st., Dunblane. Criminal Lunatic Asylum, Carstairs, warders' houses—main drain, J. White (Contractors), Ltd., 25, Comiston-rd., Edinburgh. Home Office A.R.P. Protective Clothing Store, 8, Cotton-st., Glasgow—heating and ventilation, H. Twaddle & Son, Ltd., 130, London-rd., Glasgow, C.1.

Copings and Cills.

The recently issued Carter Catalogue No. 23 deals with faience and unglazed terra cotta copings and cills. The catalogue states that copings, window mullions, cills and columns lend themselves to the purpose of adding colour to dwellings, office blocks, factories, etc., and the possibilities of faience in this direction are "almost limitless." The colour range is wide, so that almost any requirement can be met. The catalogue, copies of which may be obtained from Messrs. Carter and Co., Ltd., Poole, Dorset, deals with the colour and finish of faience, the ordering of copings and cills, standard coping sections, some typical special copings, exterior cills, cill fittings and interior cills.

TRADE NEWS

A Calendar.

We acknowledge receipt of a calendar from Messrs. Stoner and Saunders, Ltd., 20, Woodfield-road, London, W.9.

Change of Address.

Messrs. Cope and Co., Ltd., inform us that as and from February 1 their new address will be 32, Gray's Inn-road, Holborn, W.C.1. Telephone : Holborn 7541 (as before).

Floodlighting at Staple Inn.

The floodlighting at Staple Inn, a view of which is on page 231, was carried out by the General Electric Co., Ltd., of Kingsway, W.C.2.

The "Prospect" Inn, Minster.

We are informed by the Ibstock Brick and Tile Company, Limited, that the bricks supplied by them for the "Prospect" Inn, Minster, Kent (illustrated on pages 243-6 of this issue), were 12-in. by 2-in. purple "curved-face" hand-made bricks, and 9-in. by 2-in. hand-made purple facings.

A Booklet on Dustless Floors.

A booklet giving details of the design and construction of "Steel-Crete" Dustless Floors has recently been issued by Messrs. Jno. Jones (Steel-Crete), Ltd., 35, Avenue Chambers, Southampton-row, London, W.C.1. A "Steel-Crete" Dustless Floor is claimed to make a steel-hard surface to cement and grano floors, and is suitable for factories, warehouses, garages, docks and railway platforms, dairies, bakeries, hospitals, cinemas, schools, etc. The booklet concludes with a list of over 150 recent contracts on which the floors have been used.

Complete Bathroom Suites in Colour.

Messrs. M. Cockburn and Co., Ltd., Falkirk, announce their comprehensive range of bathroom equipment. The firm state that particular attention is given to the manufacture and supply of complete bathroom suites in a range of colours, thus removing the difficulty often experienced by architects and builders in getting the component parts of bathroom suites to match in colour. Messrs. Cockburn also state that they have introduced a special acid-resisting enamel which is claimed to protect their baths against deterioration with normal use for a period of two years.

New Hospital Block, Great Ormond-street.

Messrs. Dent and Hellyer, Ltd., 35, Red Lion-square, London, W.C.1, have produced an illustrated brochure dealing with the new hospital block of the Hospital for Sick Children, Great Ormond-street, London, for which they supplied the hospital sanitary appliances, and for which Dent and Hellyer Sanitation, Ltd., were responsible for the entire plumbing installation. The architects for the new hospital block were Messrs. Stanley Hall and Easton and Robertson, FF.R.I.B.A. The brochure concludes with a list of hospitals and institutions, for which Messrs. Dent and Hellyer, Ltd., supplied the sanitary appliances.

Large Flooring Order Placed.

What is claimed to be the largest flooring order ever placed has just been awarded for the $65,000,000 housing project in New York City being constructed by Starrett Bros. and Eken, Inc., general contractors, and financed and owned by the Metropolitan Life Insurance Company. The order calls for over 7,000,000 sq. ft. of hardwood block flooring costing around $1,000,000, to be furnished by E. L. Bruce Co., of Memphis, Tenn. The flooring will consist of square blocks, ranging in size from 6¾ in. to 11¼ in., fabricated into units from hardwood strips. It will be installed in mastic over concrete sub-floors. Mr. J. C. Poole, 1, Great Winchester-street, E.C.2, is the European director of the Metropolitan project.

TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Armagh.—Shelters and new floors and sanitary fittings at County Mental Hospital. G. Austyn Henry, A.R.I.B.A., architect, 16, Russell-st., Armagh. Quantities by J. Wright, F.S.I., May-st., Belfast :—

Joseph Gough, Lurgan	£12,950	0
Henry Laverty & Sons, Belfast	12,580	0
Calvert Brothers, Portadown	12,523	10
Wm. Callaghan & Sons, Lurgan	12,230	0
P. McKenna & Sons, Armagh	12,140	0
Wm. Dowling & Co., Ltd., Belfast	11,977	0
A. C. Simpson & Co., Armagh	11,863	0
Felix G. O'Hare, Warrenpoint	11,334	0
*I. Copeland & Sons, Windsor-av., Belfast	11,050	0

(Subject to approval of Ministry of Home Affairs.)

Ashton-under-Lyne.—Public branch library at Waterloo, for Lancs E.C. Stephen Wilkinson, F.R.I.B.A., County Architect, Preston :—*J. B. Catlow & Sons, Ltd., Hulton-st., Denton, Manchester.

Atherton.—Additional classrooms for 80 scholars at St. George's junior school, for Managers. Taylor & Young, FF.R.I.B.A., architects, 19, Chapel-walks, Manchester :—*G. & J. Seddon, Ltd., 5, Manchester-rd. West, Little Hulton, near Bolton, £3,500.

Avonmouth.—Extension of Eastern Arm of Royal Edward Dock :—*Charles Brand & Son, Ltd., London.

Banbury.—Service reservoir, for Banbury Water Co. :—*Kimberley & Sons, Ltd., Banbury.

Blackpool.—Chapel, showrooms, etc., Bispham-rd., for Blackpool Co-operative Society, Ltd., Shepperd-st. Plans prepared in the Architects' Department, Co-operative Wholesale Society, Ltd., Balloon-st., Manchester :—*Kerfoot, Son & Seed, Bryan-rd., Blackpool.

Bognor Regis.—8 4-bedroom parlour type, 8 4-bedroom non-parlour type, on Council's housing estate at Westloats-ln., for U.D.C. J. Draper, M.Inst.M. & Cy.E., A.M.Inst.C.E., E. and S. Quantities by E. :—

Swinger & Bowley, Saltdean	£12,990	0	0
G. A. Neal & Sons, Bognor Regis	11,645	0	0
F. Aldred & Sons, Boxgrove	11,349	8	7
	11,334	17	0
C. J. Drake & Co., Rustington	10,591	0	0
	10,648	0	0
F. W. Hill (Bognor Regis), Ltd., Bognor Regis	10,398	0	0
	10,452	0	0
A. R. Dairy, Ltd., Middleton-on-Sea	9,978	0	0
M. A. Walton, Bognor Regis	9,897	0	0
W. J. Edwards, Horsham	9,150	0	0
	9,350	0	0
Saunders (Contractors), Ltd., Burgess Hill	9,200	0	0
*Knight Bros., Astoria House, Gloucester-pl., Brighton, 1	8,180	0	0

Bradford.—Reconstruction of superstructure of L.N.E.R. overbridge No. 21 carrying Tong-st. over railway at Dudley-hill, for T.C. :—*S. Butler & Co., Ltd., Albion Wks., Stanningley, £3,777.

Bridlington.—Electrical wiring installation of new electricity showrooms and offices, Quay-rd. A. J. Beckett, M.I.E.E., Borough Electrical Engineer, Brett-st. :—*E. Lambden, 25, Flamborough-rd., Bridlington, £1,447.

Bromsgrove.—Branch stores, junction of Grovelly-ln. and Long Bridge-ln., Cofton, for Ten Acres and Stirchley Co-operative Society, Ltd., Umberslade-rd., Birmingham. H. W. Simister, architect, Norwich Union-chambs., Birmingham :—*Works Department, Ten Acres and Stirchley Co-Operative Society, Ltd., Umberslade-rd., Birmingham.

Chesterton.—120 houses, Cross Heath. Cotton, Son & Hulme, architects, Piccadilly, Tupstall, Stoke-on-Trent :—*W. Johnson, 277, Dimsdale New-rd., Wolstanton, Staffs.

Cockermouth.—50 houses on the Windmill-ln. housing scheme No. 2, for U.D.C. :—*Thomas Armstrong, Ltd., Cockermouth.

Colwyn Bay. — Conversion of "Plas Tirion," Nant-y-Glyn-rd., into maternity home, for T.C. W. J. Dunning, B.E. and S. :—*E. Cubbon, Builder, Erw Wen-rd., Colwyn Bay, £1,745.

Conisborough.—Extensions to isolation hospital, Crookhill-rd., for Doncaster and Mexborough General Hospital Board. Walker & Thompson, FF.R.I.B.A., architects, Carbon-chambs., 7b, Hallgate, Doncaster :—†T. Jenkinson (Doncaster), Ltd., Bentley-rd., Doncaster, £66,090 4s. 4d.

Dublin.—Works, for Corporation :—Demolition work at Aungier-st. and Redmond's-hill—*P. & J.

Ritchie, £875. Section No. 8 of the Liffey water supply scheme—*Leightons (Engineers), Ltd., Victoria-st., London, £35,194. Weigh-bridge and weigh-house at Cattle-market—*Avery, Ltd., 105, Middle Abbey-st., Dublin, £518. Superintendent's residence and boundary wall at Blackhorse Bridge, Drimnagh, in connection with Liffey water supply scheme—*James F. Cleary & Co., Ltd., Kilmainham, £1,344.

Durham.—Works, for County E.C.:—Installation of heating apparatus at Billingham junior Council school—*R. Pickersgill & Sons, Stockton-on-Tees, £1,548. Renewal of floors at Eastington Colliery school—*R. G. Finlay, Ltd., Sunderland, £2,165. General repairs to Seaham Harbour Council School—*W. Wigham Sons, Castletown, £990. Remodelling latrines at St. Helen's Auckland school — *J. H. Ward, Middlestone Moor, £348. Installation of heating apparatus in connection with additions to Bishop Auckland Grammar School—*Steel & Co., Sunderland, £535. Painting Hartlepool junior instruction centre—*J. G. Burdon, West Hartlepool, £160. Painting Howlish Hall transfer centre—*Kells, Ltd., Bishop Auckland, £312. Heating installation at new Crook Council school—*Steel & Co., Sunderland, £3,075. Additions to Boldon Colliery intermediate school—*R. Summerbell & Son, Tyne Dock, South Shields, £6,818. Junior school, Waterhouses—*Scott Developments, Ltd., Walton-rd., Molesey, £12,000. Senior boys' school, Wheatley Hill—*Scott Developments, Ltd., Walton-rd., Molesey, £27,500 (subject to approval of B. of E.). Alterations and additions to Shotton Council school—*G. M. Pearson, "Woodlea," Houghton-rd., Hetton, £6,700. New school at Pelton-Newfield—*Hadden & Hillman, Ltd., 127, New Bridge-st., Newcastle-on-Tyne, £38,000.

Easthampstead.—Houses on the Chavey Down site, for R.D.C.:—

E. T. Huckings & Sons	£21,862
P. Fewtrell	17,975
Wm. Creed & Co.	17,707
E. Cusden	17,652
Jones & Sons	17,569
H. Punter	17,268
A. J. Lloyd & Son	17,212
Payne Bros.	17,136
Canning & Sargeant	17,117
D. Richardson & Co.	16,888
Beacon Construction Co.	16,844
E. Clarke & Sons	16,842
W. Varney	16,214
W. C. Stephenson, Ltd.	15,426
W. J. Edmonds	14,926
C. Davis & Co.	14,540

Gloucestershire.—Erection of Maisemore bridge, for C.C. E. C. Boyce, C.S.:—*A. E. Farr, 39, Victoria-st., London, S.W.1. (Cost, £52,000.)

Great Harwood.—Extensions and alterations to bank premises, for Union Bank of Manchester, Ltd., 17, York-st., Manchester, 2. Maxwell & Shaw, architects, 48, Ainsworth-st., Blackburn:—*T. P. Willson & Sons, Ltd., Lower Darwen, Blackburn.

Halesowen.—Church and Sunday-school, for Building Committee of Carters-ln. Baptist Church Lapal. T. Stanley Beach, architect, 5, New-st.:—*J. Harper & Sons (Blackheath), Ltd., Blackheath, Birmingham, £5,200.

Hastings. — Rebuilding of Wesleyan Church and Sunday schools, Bourne-st., for Rev. K. L. Wright. Sydney G. Scales, A.R.I.B.A., architect, National Provincial Bank-chambs., Terminus-rd., Eastbourne:—*Llewellyn (Hastings), Ltd., Warrior-sq., St. Leonards-on-Sea. (Cost, £8,700.)

Horsham.—160 houses, for U.D.C.:—†C. J. Drake & Co., Rustington, £61,113.

Lancaster.—Electricity substation, Hare Run's estate, for T.C. F. Hill, City E.:—*Black & Nelson, 5, Rosebery-av., Lancaster.

Letchworth.—Extensions to St. Paul's Church, for the Vicar, the Rev. H. T. Killick. Edward R. D. Selway, F.R.I.B.A., architect, Windsor House, Victoria-st., S.W.1:—*M. & F. O. Foster & Co., Ltd., York-rd., Hitchin.

Leyburn.—Eight houses, the laying of a water main and sewer and the construction of a road at Middleham, for R.D.C.:—*R. H. Thistlethwaite's, Bellerby.

Limerick.—Development works connected with Killeely housing scheme, for Corporation:—*G. B. Dillon, £22,232.

Liverpool.—Additions to Eye and Ear Infirmary, Myrtle-st., for Board of Management. E. C. Aldridge, architect, 14, Castle-st.:—*Evans & Williams, 63, Aspen-gr., Wavertree, Liverpool.

London (Air Ministry).—Contracts placed for week ended January 28:—Carew Cheriton, various buildings and external services, J. Gerrard & Sons, Ltd., Swinton, Manchester; Sealand, internal wiring, Troughton & Young, Ltd., London, S.W.1; Marham, additional buildings and external services, Thomas & Edge, Ltd., London, S.E.18; Feltwell, additional buildings and external services, Thomas & Edge, Ltd., London, S.E.18; Turnhouse, extension of landing ground drainage, Bradshaw Bros. (Contractors), Ltd., Leicester; Kirkbride and Silloth, underground cables, Riley & Neats, Winchester; Jurby, I.O.M., heating and hot water supply, G. N. Haden & Sons, Ltd., London, W.C.2; various stations, Bellman hangars, Tees Side Bridge Engineering Works, Ltd., Middlesbrough, Cleveland Bridge Engineering Co., Ltd., Darlington, Braithwaite & Co., Engineers, Ltd., London, S.W.1, Palmers Hebburn Co., Ltd., Hebburn-on-Tyne, P. & W. Maclellan, Ltd., Glasgow, Head, Wrightson & Co., Ltd., Thornaby-on-Tees, Motherwell Bridge and Engineering Co., Ltd., Motherwell, Lanark; Stradishall, additional buildings and external services, C. Miskin & Sons, Ltd., St. Albans.

¶**London (H.M.O.W.).**—Tenders accepted for week ended January 25:—Bridgend Royal Ordnance Factory—road lighting standards—Newport & South Wales Tube Co., Ltd., 41, Easy-row, Birmingham, 1. Whittlesey (Peterborough) Telephone Exchange—erection—Rose & Sons, Ltd., 11, Low Cross, Whittlesey, Peterborough. Biddulph (Staffs) Telephone Exchange—erection—Joseph Jones (N.S.), Ltd., Liverpool-rd., Newcastle, Staffs. Glascoed and Bridgend Royal Ordnance Factories—pipe-screwing machines—Kendall & Gent (1920), Ltd., Victoria Works, Gorton, Manchester. Branch Post Office, Hammersmith Broadway, W.6—alterations and additions—Higgs & Hill, Ltd., 143, Queen Victoria-st., E.C.4. Racking, cupboards and bins—Constructors, Ltd., Nickel Works, Tyburn-rd., Erdington, Birmingham, and Milners' Safe Co., Ltd., 12 and 13, Newgate-st., E.C.1. Bridgend Royal Ordnance Factory—low-tension switchgear—J. G. Slatter & Co., Ltd., 82, Victoria-st., S.W.1. Bridgend Royal Ordnance Factory—main transformers—Transformers & Welders, Ltd., Sundown-rd., Watford. Bridgend Royal Ordnance Factory—E.H.T. switchgear, H.T. and L.T. Cables, etc.—Allen West & Co., Ltd., Brighton, 7. Bishopton Royal Ordnance Factory—Contract No. 5—George Wimpey & Co., Ltd., Hammersmith-gr., W.6. Linthwaite Telephone Repeater Station—erection—Abraham Graham & Son (Huddersfield), Ltd., Fartown Bar, Huddersfield. Glascoed Royal Ordnance Factory—steam mains—Stewarts & Lloyds, Ltd., Broad-st.-chambs., Birmingham, 1. Folding school desks—Geo. M. Hammer & Co., Ltd., Crown Works, Hermitage-rd., Harringay, N.4. Chamois leathers—James Preston & Son (Chamois), Ltd., 43/9, Elizabeth-st., Liverpool, 3. Bridgend Royal Ordnance Factory—pumping equipment at lower site reservoir—Harland Engineering Co., Ltd., "B.E.P." Works, Alloa, Scotland. Various Government buildings—steel shutters and fittings—Fisher & Ludlow, Ltd., Rolfe-st., Smethwick, Birmingham. Cotton waste and rags—E. Butterworth & Co., Ltd., Pollard-st., Manchester, 4. Compressed air tunnel building, National Physical Laboratory, Teddington—high-pressure pipework, etc.—Brown & Tawse Tubes, Ltd., St. Leonards-st., Bromley-by-Bow, London, E.3. Various Government buildings—steel shutters and fittings—Dennison Kett & Co., Ltd., Kenoval House, Farmers-rd., S.E.5, and Platt Bros. & Co., Ltd., Hartford Works, Oldham. Blackburn Royal Ordnance Factory—cables for fire alarms and clock systems — British Insulated Cables, Ltd., Surrey House, Embankment, W.C.2. Hellifield Telephone Station, Yorks—erection—Pickles (Builders), Ltd., Mile Thorn, Halifax. Draught screens—G. M. Hammer & Co., Ltd., Crown Works, Hermitage-rd., Harringay, N.4. Mahogany plan presses—D. M. Davies (Slough), Ltd., Trading Estate, Slough. Veterinary Laboratory, Addlestone, Surrey — refrigeration plant—Lightfoot Refrigeration Co., Ltd., Abbeydale-rd., North Circular-rd., Wembley. Ministry of Pensions Hospital, Cosham—external and internal painting—G. Jones & Son, 27b, Kensington Church-st., W.8. Various Government buildings—emergency generating sets—Ruston & Hornsby, Ltd., Imperial House, 15, 17 and 19, Kingsway, W.C.2. Rubber-lined canvas fire hose—Lewis & Tylor, Ltd., Terminal House, Grosvenor-gdns., S.W.1. Light trailer motor-driven pumping units—Sigmund Pumps (Gt. Britain), Ltd., Bush House, Aldwych, W.C.2, and Coventry Climax Engines, Ltd., Friars-rd., Coventry. Garrison Church, Shorncliffe, Folkestone—erection—O. Marx, 155, Sandgate-rd., Folkestone. Leeds, Head Post Office—construction of new power and battery rooms—N. B. Bell & Co., Ltd., Halton Moor-rd., Halton, Leeds. Bishopton Royal Ordnance Factory—installation of lightning protection system—James Kilpatrick & Son, Ltd., River Cart-walk, Paisley. Childwall (Liverpool) Telephone Exchange — erection — John Williams (Liverpool), Ltd., 70, Collingwood-st., Liverpool, 5. Manchester district—work in connection with air raid precautions—Henry Green & Son, Stocks House, Cheetham Hill-rd., Manchester 8; Robert Carlyle & Co., Ltd., Elsinore-rd., Old Trafford, Manchester; P. Hamer, Ltd., Swinton, Manchester; and Tinker & Young, Ltd., Monsall-st., Manchester. Trays for storage racks — Hampton Timber Co., Ltd., Hampton. Steel vertical filing cabinets — Art Metal Construction Co., 199/205, Buckingham Palace-rd., S.W.1. Linoleum — Jas. Williamson & Son, Ltd., Lancaster; North British Linoleum Co., Ltd., Clepington-rd., Dundee; Barry, Ostlere & Shepherd, Ltd., Forth Works, Kirkcaldy; Dundee Floorcloth & Linoleum Co., Ltd., P.O. Box No. 42, Dundee, Angus; and Linoleum Manfg. Co., Ltd., 6, Old Bailey, E.C.4; and Michael Nairn & Co., Ltd., Kirkcaldy. Galvanised ironware—National Galvanisers, Ltd., Pallion New-rd., Sunderland; Sargeant, Turner & Sons, Ltd., Imperial Works, Lye, Stourbridge; Ludlow Bros. (1913), Ltd., 202, Fazeley-st., Birmingham, 5; and Walker Bros., Ltd., Staffordshire Galvanising Works, Walsall. Linoleum—Tayside Floor Cloth Co., Ltd., Tayside Works, Newburgh. Bridgend Royal Ordnance Factory—electric hardening furnaces—Wild-Barfield Electric Furnaces, Ltd., Elecfurn Works, North-rd., Holloway, N.7. Faraday Building South Extension—pressed steel staircase between basement and fifth floor—Fredk. Braby & Co., Ltd., Eclipse Steel Works, Petershill-rd., Glasgow, N. Air Ministry, Berkeley Square House, W.1. Adaptations and partitions—Moore & Wood, Ltd., 262, Langham-rd., N.15. Chorley Royal Ordnance Factory—main-road lighting fittings, etc.—Revo Electric Co., Ltd., Tipton.

London.—Works, for L.C.C.:—

Extension and improvements, L.C.C. Paddington Technical Institute—

A. Roberts & Co., Ltd.	£8,980
Prestige & Co., Ltd.	8,974
J. & C. Bowyer, Ltd.	8,791
G. Newton & Hill	8,788
W. H. Gaze & Sons, Ltd., Kingston	8,785
Sloggetts (Contractors), Ltd., Hampton Hill	8,717
Triggs & Co., Ltd.	8,696
R. Dixon & Sons	8,665
Wm. Walkerdine, Ltd.	8,602
W. J. Marston & Son	8,600
Ditto (Empire materials)	8,620
Haymills (Contractors), Ltd.	8,596
F. Troy & Co., Ltd.	8,587
Callow & Wright, Ltd.	8,408
C. P. Roberts & Co., Ltd.	8,348
*G. Godson & Sons, Ltd., Kilburn-lane, W.10	8,300

(Architect's estimate on Empire materials £8,723.)

Workshops, messrooms at northern outfall works—

J. L. Kier & Co., Ltd.	7,370
W. J. Cearns, Ltd.	7,277
A. E. Symes, Ltd.	7,076
The Demolition & Construction Co., Ltd.	6,898
J. Garrett & Son, Ltd.	6,802
C. P. Roberts & Co., Ltd.	6,790
R. Costain, Ltd.	6,790
B. Sunley & Co., Ltd., Brentford	6,701
Griggs & Son, Ltd.	6,670
Truett & Steel, Ltd., Thornton Heath	6,517
Chas. S. Foster & Sons, Loughton	6,420
*British Projects, Ltd., 8, 9 & 10, Lower James-st., London, W.1	6,216

(Architect's estimate £6,731.)

Electrical installations in block dwellings at Springfield estate, Wandsworth:—*A. Meckhonik, £269 15s. 4d. (Chief Engineer's estimate £309.)

Construction of Cromwell-rd. extensions from Warwick-rd. to North End-rd.:—

Paterson & Dickinson, Ltd.	£131,089	19	7
A. E. Farr	128,898	0	0
Head, Wrightson & Co., Ltd., Thornaby-on-Tees	123,000	0	0
Haymills (Contractors), Ltd., Ealing	122,369	0	0
The Cleveland Bridge & Engineering Co., Ltd., Darlington	118,538	11	4
Commercial Structures, Ltd., Leyton	116,980	0	0
Dorman, Long & Co., Ltd., Middlesbrough	113,636	18	2
B. Sunley & Co., Ltd., Brentford	113,519	15	5
George Wimpey & Co., Ltd.	113,512	3	3
M. J. Gleeson, Ltd., North Cheam	112,698	0	0
A. Jackaman & Son, Ltd., Slough	110,661	10	1
Christiani & Nielson, Ltd.	108,692	2	4
J. L. Kier & Co., Ltd.	108,367	15	2
W. & C. French, Ltd., Buckhurst Hill	107,973	2	2
The Demolition & Construction Co., Ltd.	105,677	14	11
John Mowlem & Co., Ltd.	105,286	10	8
Caffin & Co., Ltd.	104,451	18	5
Melville, Dundas & Whitson, Ltd., Glasgow	102,508	17	7
G. Percy Trentham, Ltd., 63-9, New Oxford-st., W.C.1	99,868	5	6

(Chief Engineer's estimate £115,791 19s. 9d.)

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Erection of dwellings, Commerell-st. area, Greenwich—

R. J. Rowley, Ltd.	£56,781
Higgs & Hill, Ltd.	56,382
Albert Monk	54,617
E. A. Roome & Co., Ltd.	54,143
Ditto (Empire materials)	54,053
Holliday & Greenwood, Ltd.	54,045
Allen Fairhead & Sons, Ltd., Enfield	53,367
Wilson Lovatt & Sons, Ltd.	52,684
Rowley Bros., Ltd.	52,498
C. Miskin & Sons, Ltd., St. Albans	51,966
W. J. Simms, Sons & Cooke, Ltd., Nottingham	51,697
A. T. Rowley (London), Ltd.	51,612
Stewart & Partners, Ltd.	51,538
The Unit Construction Co., Ltd.	51,461
Gee, Walker & Slater, Ltd.	51,200
Halse & Sons, Ltd.	51,115
A. E. Symes, Ltd.	50,337
John Knox (Bristol), Ltd.	50,209
*W. H. Gaze & Sons, Ltd., High-st., Kingston	49,483

(Architect's estimate £49,475.)

Block 6 of dwellings at South Lambeth estate—

Harry Neal, Ltd.	£16,734
Foster & Dicksee, Ltd.	16,516
Allen Fairhead & Sons, Ltd., Enfield	16,400
Walter Lawrence & Son, Ltd.	16,344
Leslie & Co., Ltd., Kensington	16,225
C. Miskin & Sons, Ltd., St. Albans	16,124
Holliday & Greenwood, Ltd.	15,993
John Laing & Son, Ltd.	15,270
R. J. Rowley, Ltd.	14,998
Richard Costain, Ltd.	14,916
Stewart & Partners, Ltd.	14,868
Rowley Brothers, Ltd.	14,615
A. T. Rowley (London), Ltd.	14,342
The Unit Construction Co., Ltd.	14,182
Gee, Walker & Slater, Ltd.	14,000
*W. H. Gaze & Sons, Ltd., High-st., Kingston	13,583

(Architect's estimate £14,605.)
(Rest of London.)

London.—Works, for M.W.B. :—Painting interior of No. 12 engine-house, including the engine and pump, at Hammersmith works—*Direct Labour, £350. Renewing 117 yards of close-boarded oak fencing at Hadley-rd. pumping station (work to be carried out by the Board's employees)—*Direct Labour, £120. Repairing and painting internally meter stores and meter stores office, Battersea works—*Direct Labour, £120.

Main-laying work from Fortis Green-Alderman's-hill—

Walter Smith (Public Works), Ltd.	£25,988	12	2
J. W. Ashdown, Ltd.	22,834	12	6
John Mowlem & Co., Ltd.	21,358	1	7
Whittaker Ellis, Ltd.	20,126	12	1
M. J. Gleeson, Ltd.	18,918	13	10
Howard Farrow, Ltd.	18,495	19	3
William Press & Son	16,879	7	5
*W. & C. French, Ltd.	16,230	4	6
Lavender, McMillan, Ltd.	12,131	6	1

¶London (Admiralty).—Portsmouth—supply and erection of timber huts. Wm. Harbrow, 214, Rotherhithe New-rd., S.E.16.

Manchester.—Works for T.C. :—Reconstruction and widening of Queen's-rd. bridges No. 1 and 7 over the L.M. & S. Railway. Harpurhey. F. E. Button, City E., †J. A. Godfrey & Co., 333, North-rd., Manchester, 11; electrical installations to 248 residential flats at Miles Platting. *E. M. Evans & Son, Ltd., Cornwall-st., Manchester.

Manchester.—Catholic schools for parish of Christ the King, Newton Heath, accommodation for 290 scholars with assembly hall for 500, for Rev. J. A. O'Neil. H. Greenhalgh, P.A.S.I., architect, 15, Mawdesly-st. :—*G. & J. Seddon, Ltd., 5, Manchester-rd., Little Hulton, near Bolton, £10,900.

Manchester.—Physical recreation block at Burlington-st., for Victoria University of Manchester. J. W. Beaumont & Sons, F.R.I.B.A., architects, 53, Spring-gdns. :—*H. Matthews & Sons (Builders), Ltd., 129, Stockport-rd., Ardwick, Manchester, 12.

Middlesex.—Works for C.C. :—

Alterations and additions to changing-rooms and shower baths at the Ashford county school—

A. Jordan, Staines	£318 0 0
‡Sloggetts (Contractors), Ltd., Hampton Hill	314 9 8

Duplication of carriageway, Oldfield-la. to Great Western Railway, Greenford, on Western-av. :—

Hadsphaltic Construction Co., London	£23,371	8	8
Ewing & Salmond, Croydon	22,365	16	8
Constable Hart & Co., London	21,725	16	6
W. H. Wheeler & Co., Camberwell	21,919	3	1
J. W. Ellingham, Ltd., Herne Bay	21,649	0	0
C. H. Linton, Ltd., St. Albans	21,092	9	3
E. C. MacDermot & Co., Wembley	21,097	0	4
A. Robinson, Kenton	20,973	18	7
W. & C. French, Ltd., Buckhurst Hill	20,825	19	9
W. & J. Glossop, Ltd., Hammersmith	20,795	3	0
Mears Bros., Ltd., Lewisham	20,762	6	8
Wates & Co., Norbury	20,678	14	3
M. J. Gleeson, North Cheam	20,659	3	7
Ruddock & Meighan, Wealdstone	20,651	12	10
Parr Head & Clements Knowling, Ealing	20,570	0	0
Howard Farrow, Ltd., Golders Green	20,524	18	5
Fitzpatrick & Son, Ltd., Bow	20,416	0	3
H. C. Janes, Ltd., Westminster	20,402	0	0
C. J. Anderson, Poplar	20,400	8	7
J. Dalziel, Ltd., Oxford	20,384	10	8
P. Bilton, Ltd., London	20,250	10	8
Tarmac, Ltd., West Ealing	20,520	9	11
Janes & Son, Slough	20,166	0	5
Roads & Public Works, Ltd., Clapham	19,928	8	2
Lavender McMillan & Co., Worcester Park	19,924	15	8
Wm. Griffiths & Co., Ltd., London	19,682	6	6
J. Mowlem & Co., London	19,418	7	2
Tarslag (1923), Ltd., South Harrow	19,236	9	7
W. Manders & Co., Enfield	18,773	0	6
G. P. Trentham, Ltd., London	18,723	12	5
‡G. Wimpey & Co., Hammersmith	18,405	19	3

Morecambe.—Floral hall to concert hall, for Empire Theatres, Ltd. S. G. Oldham, F.F.A.S., architect, 42, Claremont-rd. :—General contractors—*H. Lund & Co., Morecambe. Steelwork—*Henry Barrett & Sons, Ltd., 37, Thornton-rd., Bradford. (Estimated cost, £16,000.)

Morecambe and Heysham.—Works in connection with the West End Promenade improvement scheme, for T.C. R. B. Savage, B.E. :—*Harbour and General Works, Ltd., London, £93,830. (In lieu of tender withdrawn.)

Newcastle.—Warehouse, for Moat & Sons. J. W. Taylor & Sons, architects, St. John's-st. :—*J. F. Simpson, Railway Bank Manors, Newcastle.

Newcastle-on-Tyne.—Works, for T.C. :—Electric substation in grounds of the General Hospital—*E. Thompson, 12, Grey-st., Newcastle-on-Tyne. Subtrades in connection with maternity block at the General Hospital—heating and hot-water supply—*J. T. Leake & Co., Ltd., Newcastle, £2,828; electrical installation—*Falconar, Cross & Co., Ltd., Newcastle, £628. Painting work at "Limecroft," Western-ave.—*Urwin & Simpson, Newcastle, £155. Painting East End police station—*Gledhill & Co., Newcastle, £134. Painting New Bridge-st. baths—*M. Alexander & Sons, Newcastle, £144. Painting Byker baths—*M. Alexander & Sons, Newcastle, £206. Painting workshops for adult blind — *R. Stephenson & Co., Newcastle, £319. Alterations to sanitary annexe at infectious diseases hospital—*Osborne Bros., Fern-ave., Jesmond, Newcastle-on-Tyne (cost £500).

Newcastle-upon-Tyne.—Works, for T.C. City Architect, 18, Cloth Market :—

Decontamination depot, Stratford-grove-terr.—

Anti-Bomb Constructions, Ltd., London	£5,098	17	7
F. Bradford & Co., Ltd., London	3,353	14	4
C. S. Hogg (Builders), Ltd.	3,289	16	5
Sowerbys (Contractors), Ltd.	3,287	8	7
Alderson Bros.	3,059	0	0
A. & J. W. Potts	2,964	8	11
Geo. C. Hadden Hillman, Ltd.	2,798	3	4
*Alex. Anderson (Contractors), Ltd., 1, Stanmore-rd., Heaton	2,793	0	0
Kirk & Dickinson, Ltd.	2,785	0	4

Depot offices, Union-rd., Byker—

R. W. Fullerton	£3,310 10 0
A. & J. W. Potts	£2,925 0 0
Stephen Fenwick & Co.	2,608 0 0
Alex. Anderson (Contractors), Ltd.	2,593 0 0
*J. & W. Lowry, 56-54, Corporation-st.	2,569 0 0
Northern Housing Development (Contractors), Ltd.	2,533 7 6

(Rest of Newcastle-upon-Tyne.)

Newcastle-under-Lyme.—26 houses off Temler-ter., Porthill. Hollins & Jones, architects, Lloyds Bank-chambs. :—*Hartshill Development Co., Ltd., 589, Harthill-rd., Stoke-on-Trent.

Northampton.—Electrical lighting installation for county offices extensions, for Northants C.C. :—*Hutchings & Cunnington, 6, Newland, Northampton, £656.

Oldham.—166 houses at Strinesdale, for T.C. G. E. Hardy, B.E. :—*F. W. Castle, Thompson-ln., Chadderton, Oldham.

Ongar.—36 houses, for the R.D.C. :—*Smith Bros., Thornwood, £13,093 12s. 11d.

Oxford.—Sub-structure and super-structure of gymnasium adjacent to Temple Cowley Council senior mixed school, for E.C. :—Sub-structure—*Hansard & Co., Ltd., £1,938. Super-structure—*J. Harrison, £1,350.

Passage.—24 houses, for U.D.C. J. R. Boyd-Barrett, architect :—*John Murray, Store-st., Youghal, £3,160.

Penistone.—24 houses, Towngate housing site, Thurlstone, for U.D.C. Lunn, Heppenstall & Lunn, architects, Milnsbridge, Huddersfield :—*E. Cutts, Ltd., 9, Hunters-av., Dodworth-rd., Barnsley.

Pontypridd.—In our issue of January 20 we stated that a contract had been placed by the U.D.C. for 40 houses. This, we are informed by Mr. W. Cecil Evans, Assoc.M.Inst.C.E., architect to the council, is incorrect, as the council have a scheme in hand for 76 houses at Rhydyfelin, and no contracts have yet been placed.

Rotherham.—Building and extensions to existing premises at Main-st., for Rotherham Co-operative Society, Ltd., Main-st. Architects' Department, Co-operative Wholesale Society, Ltd., Balloon-st., Manchester—*Building Department, Vere-st., Salford, Manchester. (Estimated cost, £18,000.)

Rotherham.—Warehouse, Westgate, for Anderson Boyes & Co., D. B. Jenkinson, architect, Imperial-bldgs. :—*Andrews, Baldwin & Co., Ltd., Rawmarsh-rd., Rotherham.

Royton.—118 houses, Milton-st. housing estate, for U.D.C. L. Cookson, S. :—Brickwork and house drainage—*J. & J. Blunn; joinery—*F. & F. Platt, *G. & J. Seddon, Little Hulton, and *J. Buckley; slating and tiling—*Wm. Henshall & Sons, Ltd., and *J. Jackson (Oldham), Ltd.; plumbing—*S. C. Penfold, North Cheam; plastering—*Smart & Shaw, *S. Robinson and *W. B. Stott & Co., Ltd.; painting—*F. & J. Pilling Bros., Ltd., Manchester; electric wiring—*D. Foote, Manchester. (Rest of Oldham.)

St. Albans.—48 flats and shops at 245/247, Hatfield-rd., for Alban Properties, Ltd. Herbert W. Cash, F.R.I.B.A., architect, 31, Great James-st., Bedford-row, W.C.1 :—*Wilber (Builders) & Co., 10, Drake-st., Holborn, W.C.1.

Scarborough.—Alterations and additions to North Bay-promenade public conveniences. H. V. Overfield, Borough and Water Engineer :—*Jaram & Son, 20a, Gladstone-st., Scarborough.

Shalford.—Repairs to chapel and belfry at Shalford cemetery, for P.C. E. Emerson, A.R.I.B.A., and R. V. Tutte, P.A.S.I., 11, Garrick-st., London, W.C.2, architect and surveyor :—

"Bidder" Reparations, Ltd., London, S.E.17	£328 0
W. G. Oliver, Guildford	295 0
W. G. Sheppard, Guildford	262 10
A. T. Gibson & Co., Shalford	261 0
*R. Holford & Co., Imperial Works, Walnut Tree-close, Guildford	235 0

Sheffield.—Senior department on Hatfield House-ln. council school site, for E.C. W. G. Davies, F.R.I.B.A., City Architect :—‡W. G. Robson, Ltd., Bamford-st., Sheffield, £38,920.

Sligo.—Technical school, for E.C. :—

Langan & Golden, Ballina	£12,959
R. McCarthy, Ballina	11,706
Kilcawley, Maloney & Taylor	11,681
S. Phillips, Drumcondra, Dublin	11,668
*J. Molloy & Sons, Ballina	10,328

Sligo.—136 houses at Abbeyquarter, for Corporation :—

Gleeson, Galway	£81,148
McCarthy, Ballina	71,729
Black & Sons, Athlone	63,460
Molloy & Sons, Ballina	61,820
Hodgkins & Sons, Dublin	59,637
*Kilcawley, Maloney & Taylor, Ltd., Sligo	53,734

Slough.—Extension of stores premises, 120, High-st. Hillier, Parker, May & Rowden, architects, 27, Maddox-st., W.1 :—*Henry Taylor (Epsom), Ltd., Epsom.

Southampton.—Branch premises, High-st. and New-st., for Bank of England. A. V. Heal, F.R.I.B.A., architect, 11, Gray's Inn-sq., W.C.1 :—*Trollope & Colls, Ltd., 5, Coleman-st., E.C.2.

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South Tipperary.—Wall and other work at Killenaule, for E.C. :—*P. McEvoy, £170.

Southend-on-Sea.—Alterations and additions to premises, High-st., for British Home Stores, Ltd., Abbey House, Upper Baker-st., N.W.1. Albert L. Farman, A.R.I.B.A., staff architect :—*H. Fairweather & Co., London.

Southport.—Additions to Homœopathic Hospital, Fleetwood-rd., for Health Committee. Jones & Rigby, architects, 271, Lord-st. :—*R. Marshall & Son, Ltd., 43a, Cemetery-rd., Southport, £8,000.

Southport.—Nursing home, Hoghton-st., for Board of Management of Southport and Birkdale District Nursing Association, 52, Hoghton-st. Norman Jones & Leonard Rigby, architects, 271, Lord-st. :—*J. G. Wilkinson, 12, Forest-rd., Southport.

Stafford.—125 houses on Silkmore housing estate, for T.C. W. Plant, M.Inst.C.E., F.S.I., B.E. :—*Sabin & Young, Ltd., Rushall, Walsall, £47,177 12s.

Staffs.—Works, for E.C. :—Erection of Kinver senior mixed school—*T. W. Edwards & Son, Audnam, £21,279. Erection and completion of Knypersley senior girls' school, Biddulph—*T. Grace, Leek, £20,166. Gymnasium at Huntington senior school—*F. A. & H. Taylor, Bloxwich, £2,988 12s. 10d. Erection of Butterton junior mixed school—*G. L. D. Bates, Wolstanton, £3,918.

Stepney.—Static sub-station building on L.C.C. Wheler House housing estate, Quaker-st., Spitalfields, for B.C. :—

T. J. L. Davies (Stepney), Ltd.	799	0
Simms (Builders), Ltd.	735	0
Demolition & Construction Co., Ltd.	713	0
Unit Construction Co., Ltd.	667	10
G. E. Weston & Sons	663	10
‡George Barker, 48-50, New-rd., E.	621	15

Stockport.—Extensions to nurses' home at Stepping Hill Hospital, for Public Health Committee. H. S. Fairhurst & Son, architects, 55, Brown-st., Manchester :—*Hibbert & Penn, Clywd-av., Stockport.

Stoke-on-Trent.—Works for T.C. :—(*a*) Boundary walls, etc., and (*b*) retaining wall for coal store, at Gas Works, Etruria —(*a*) *Sambrook Bros., Ltd., Hamil-rd., Burslem, £597; (*b*) *Naylor & Nutt, Coronation-st., Tunstall, £688.

Stourport-on-Severn.—Demolition of an existing bridge and buildings, construction of reinforced concrete bridge with mass concrete abutments, construction of new office, reconstruction of approach roads, etc. for U.D.C. A. H. S. Waters, E., 25, Temple-row, Birmingham :—*G. Law, Ltd., Comberton-hill, Kidderminster, £7,106.

Stratford-upon-Avon.—Houses for R.D.C. :—

Ashorne—one 3-bedroom house and one 4-bedroom—	
Clarke Bros.	£1,030
*T. A. Simkins	1,000
Bearley—three 3-bedroom houses—	
Clarke Bros.	£1,420
*Simkins	1,310
Combroke—one 3-bedroom house and one 4—	
Clarke Bros.	£1,060
*Simkins	1,000
Quinton—three 3-bedroom houses—	
*Clarke Bros.	£1,315
Weston—three 3-bedroom houses and three 4-bedroom houses—	
Simkins	2,730
*Clarke Bros.	£2,695

Tottenham.—Erection of Clinton-rd. convenience, for T.C. :—*Greenaway & Son, 265a, Lordship-la., S.E.22, £2,117

Twickenham.—Carrying out of footpath paving works, for T.C. :—

W. H. Gaze & Sons, Ltd.	£21,804	11	5
Parr-Head & Clements Knowling, Ltd.	21,587	0	0
Lewis Bonchurch, Ltd.	17,896	8	6
Rumney Gibson, Ltd.	17,803	2	5
S. Prosser, Ltd.	17,081	3	1
Lavender, McMillan, Ltd.	17,075	12	10
George Wimpey & Co., Ltd.	17,049	12	8
Bridgwater Bros.	17,012	10	11
Jane Bros. (Contractors), Ltd.	16,876	13	9
Brookes, Ltd.	16,862	4	6
Sparkes Bros., Ltd.	16,640	16	8
Willment Bros.	16,500	2	7
A. A. Williams (Contractors), Ltd.	16,154	7	3
John Mowlem & Co., Ltd.	16,067	6	4
Gordon Carrington Co., Ltd.	15,668	17	10
Percy Bilton (Roadways), Ltd.	15,205	4	10
Fitpatrick & Son (Contractors), Ltd.	15,094	13	3
W. & J. Glossop, Ltd.	15,074	17	8
*Wates, Ltd., 1258-1260, London-rd., Norbury, S.W.16	15,008	7	11

Wakefield.—Rebuilding the "Jockey Hotel," Northgate, for Leeds & Wakefield Breweries, Ltd., Melbourne Brewery, Leeds, 2. J. Percy Firth, architect, Chancery-chambs., Barston-sq. :—*A. C. Green, Market-st., Wakefield.

Wandsworth.—Demolition of buildings on Sadler's bldgs. area, Putney, for B.C. :—*F. C. Flack, £193 12s. 9d.

Whiston.—14 houses at Windle and Halewood, for R.D.C. Gornall & Wainwright, architects, 8, Hardshow-st., St. Helens :—*A. J. Kenwright, 76, Robinsln., Sutton, St. Helens.

Wolverhampton.—Works, for T.C. (a) 32 houses at Pond-la.; (b) 6 houses at Navigation-st., for T.C. H. B. Robinson, B.E. :—(a) *Rudge Brothers (Builders), Ltd., Birmingham, £12,032. (b) *A. Poole, Son & Co., Heathtown, Wolverhampton, £2,514. Demolition of buildings and clearing site and erection of garages, workshops, etc., at School-st. depot (quantities by Henry Vale & Sons, 21, Waterloo-rd.)—*R. Speake & Son, Stafford-st., Wolverhampton, £7,069.

Wood Green.—Re-decoration of administrative block at Western-rd. baths, for T.C. :—

T. Bates & Son, Ltd., Barking	£168
S. C. Grover, Ltd., E.7	163
*Herbert H. Starke, 19, Monkhams-av., Woodford Green	147

Youghal.—25 houses, for U.D.C. :—*T. Murray & Sons, Youghal, £7,875.

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